

**Toronto Port Authority**  
**Billy Bishop Toronto City Airport (BBTCA)**



***Lakefill Within Marine Exclusion Zone (Keep-Out-Area) - Toronto Harbour***  
***Draft Environmental Screening Report***

DRAFT - July 10, 2012



Dillon Consulting Limited





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**Appendix A** – Toronto City Airport Lakefill EA Screening- Shoreline and Coastal Environment

**Appendix B** - Ontario Provincial Standard – Turbidity Curtain

**Appendix C** – Record of Consultation



## **ENVIRONMENT SCREENING REPORT**

<b>A. PROJECT IDENTIFICATION</b>	
Project Name/Title:	Billy Bishop Toronto City Airport Proposed Lakefill Within Marine Exclusion Zone (Keep-Out-Area) - Toronto Harbour
Project Location:	City of Toronto, Ontario
Project Proponent:	Toronto Port Authority
CEAA Trigger:	Project Proponent (under the Canada Port Authority EA Regulations)
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## **EXECUTIVE SUMMARY**

The Toronto Port Authority (TPA) is proposing to undertake lakefilling in the Toronto Harbour at the east end of the Billy Bishop Toronto City Airport (BBTCA) within the Marine Exclusion Zone (MEZ). This is to include the filling in of an area with a maximum top surface area of about 8,000 m<sup>2</sup> and a maximum lakebed footprint of about 9,200 m<sup>2</sup>. The lakefill will be entirely underwater with the top surface area being about 0.5 m to 1.0 m below chart datum lake level. The project would improve the safe use and operation of the BBTCA as it would create shallower waters to deter marine vessels from penetrating the Obstacle Limitation Surface of the runway. If fill material (primarily rock) from the nearby Pedestrian Tunnel project was utilized, the lakefill project would have the added benefit of reducing truck traffic in the local community.

The TPA is conducting an Environmental Assessment (EA) of the Project pursuant to the requirements of the Canada Port Authority Environmental Assessment Regulations made under the Canadian Environmental Assessment Act (CEAA).

In conducting the EA screening other federal agencies have been consulted with including: Environment Canada, Department of Fisheries and Oceans, Transport Canada, NavCanada and the Canadian Environmental Assessment Agency. No other agency has indicated that they would also serve as a Responsible Authority for this project. As such, the TPA is the only regulated federal authority that needs to approve this EA screening.

The TPA has notified the public regarding the proposed project and held a public meeting to present the project and receive comments. Comments that have been received have been considered by the TPA in the conduct of this EA screening. This report includes a record of the comments received.

The scope of this EA includes the environmental effects of the Project, including the environmental effects of malfunctions or accidents that may occur in connection with the Project, and any cumulative environmental effects that are likely to result from the Project in combination with other projects or activities that have been or will be carried out. A listing of the scope of the factors assessed in this EA is provided in Section 3 (Scope of the Project) of this report.

Direct effects considered and assessed in the EA include the short-term Project construction impacts and the longer-term effects from the “operation” of the Project. Baseline



environmental conditions have been described, which represent existing conditions (i.e., before the Project). For construction effects, it was assumed that construction of the Project would commence in mid-summer 2012 and take up to 18 months.

For the cumulative effects assessment, the EA assessed the effects of the Project in combination with other proposed developments and activities in the Study Area.

The results of the assessment of the direct and cumulative effects associated with the Project on each of the environmental factors included in this EA are presented in Section 5 (Environmental Effects and Mitigation) of the report. Some minor, localized and short-term project construction related nuisance effects are expected. These effects are expected to include impacts of fish and fish habitat and the potential for some construction related disturbances (e.g. noise). Very minor to no effects are expected for the operations period of the Project. As boats are not allowed within the MEZ, the project would not impact boat traffic in the Harbour. The EA predicts that neither the direct effects nor the cumulative effects of the Project would result in significant adverse effects on the environment.

To minimize the short-term construction related effects, the EA has recommended a number of mitigation measures and monitoring activities that would be implemented by the TPA if a decision were made to proceed with the Project. These include for example, the use of a “bottom opening” barge for the dumping of a portion of the material to reduce construction noise (subject to availability of such a barge), and measures to manage sedimentation/turbidity effects during the construction period.





# 1 PROJECT

## 1.1 Project Description

The project is the **Billy Bishop Toronto City Airport Proposed Lakefill within Marine Exclusion Zone (Keep-Out-Area) - Toronto Harbour** (BBTCA Lakefill, or the Project). The Toronto Port Authority (TPA) is the Project proponent. The Project includes the lakefilling in the Toronto Harbour at the east end of the Billy Bishop Toronto City Airport (BBTCA) within the Marine Exclusion Zone (MEZ)<sup>1</sup>. This is to include the filling in of an area with a maximum top surface area of about 8,000 m<sup>2</sup> (and a maximum lakebed footprint of about 9,200 m<sup>2</sup>). The lakefill will be entirely underwater with the top surface area being about 0.5 m to 1.0 m below chart datum lake level. The Project would improve the safe operation of the BBTCA as it would create shallower waters to deter marine vessels from penetrating the Obstacle Limitation Surface of the runway. If fill material (primarily rock) from the nearby Pedestrian Tunnel project is utilized, the Lakefill project would have the added benefit of reducing construction truck traffic in the local community.

**Figure 1**, Project Location Plan, illustrates the location for the proposed lakefill.

It is noted that the Project location is not near water intakes or outfalls. There is a City of Toronto water intake tunnel in the vicinity of the project location; however, the intake tunnel is located more than 20 m under the lakebed. Consequently, effects to the water intake tunnel from the lakefill project are unlikely.

## 1.2 Project Purpose

The Project purpose is:

- To improve the safe use and operation of the BBTCA;
- To take advantage of the excess rock material being generated from the nearby Pedestrian Tunnel Project; and,
- To minimize pedestrian tunnel construction trucking related effects to the local community.

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<sup>1</sup> The Marine Exclusion Zone (MEZ) is a marked area in which no vessel shall enter for any purpose without authorization of the Toronto Port Authority (*Toronto Port Authority Practices And Procedures Within The Limits Of The Port & Harbour Of Toronto*, June 2000).







### **1.3 Project Location**

The site of the BBTCA Lakefill is within the Toronto Harbour at the east end of the BBTCA, within the Marine Exclusion Zone. **Figure 1** illustrates the proposed location for the lakefill.



**TORONTO PORT AUTHORITY**  
BILLY BISHOP TORONTO CITY AIRPORT  
PROPOSED LAKEFILL CEEA PROJECT  
DESCRIPTION

**PROJECT LOCATION PLAN**  
FIGURE #1

-  MARINE EXCLUSION ZONE BUOY LOCATIONS
-  PROPOSED POTENTIAL LOCATION OF STOCKPILE
-  PROPOSED LOCATION OF LAKEFILL
-  PROPOSED POTENTIAL BARGE LOADING LOCATION

NTS



MAP DRAWING INFORMATION:  
DATA PROVIDED BY MNR  
GOOGLE EARTH PRO

MAP CREATED BY: SFG  
MAP CHECKED BY: EC  
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\dillon.ca\DILLON\_DFS\Toronto\Toronto GIS  
\\126110\Mapping\Project Location Plan.mxd





## 2 CANADA PORT AUTHORITY EA REGULATIONS AND APPROVALS

In accordance with the *Canada Port Authority Environmental Assessment Regulations* (the “CPA EA Regulations”), which were made under the *Canadian Environmental Assessment Act* (the “CEAA”), the TPA is conducting this Screening Level Environmental Assessment (EA) for the Project, which is considered to be a “physical work” being proposed by the TPA.

The TPA has consulted with several federal agencies regarding this Project including: Department of Fisheries and Oceans (DFO), Transport Canada, Environment Canada and the CEA Agency. The results of these federal agencies consultations are as follows:

- DFO indicated that they would serve as an “Expert Federal Authority” and have been consulted with in the preparation of this screening report. Formal authorization under the Fisheries Act will not be required for this Project.
- A “Request for Work Approval” application under the *Navigable Water Protection Act* (NWPA) has been submitted to Transport Canada. Based on consultation with Transport Canada, formal approval under the NWPA is not expected to be required as the project is located within the Marine Exclusion Zone (MEZ).
- In addition to this screening, but not as a requirement of the screening approval, a Land Use Proposal was submitted to NAV Canada. This is required for proposals that involve construction on an airport with Control Tower Services, Weather Services, Localizer or other navigational aids. NAV Canada’s evaluation of land use proposals and construction proposals neither constitutes nor replaces any approvals or permits by Transport Canada. NAV Canada’s main interests are related to the construction timing and the potential for soil stockpiling on BBTCA property.
- The Canadian Environmental Assessment Agency indicated that as this proposed Project is currently undergoing a federal EA screening, and there is no provincial environmental assessment, the Agency does not have an official interest in this project.
- Environment Canada (EC) indicated that EC does not have any obligations as a Responsible Authority under CEAA for this proposed Project. They have provided specialist information and knowledge in the context of their role as “Expert Federal Authority”. EC has recommended to refer to the *“Fill Quality Guide and Good*



*Management Practices for Shore Infilling in Ontario*” prepared by the Ontario Ministry of Environment (March 2011) for guidelines on fill quality and good management practices related to the placement of fill in the waterbody.

Provincial approvals are not required for this Project as the lake bed area where the Project is proposed is under the ownership and jurisdiction of the TPA.

### **3 SCOPE OF THE PROJECT**

#### **3.1 Project Components**

The only permanent Project component is the lakefill facility. During construction, temporary components may include construction mitigation measures (e.g. a silt curtain to be suspended in the water). The material to be used for the lakefill facility is expected to largely include the rock excavated from the nearby TPA Pedestrian Tunnel Project. Material excavated from the Pedestrian Tunnel Project will be placed on a barge(s), which is expected to be able to hold approximately two days worth of material. The barge would be towed to the lakefill site for deposition every 1 to 2 days. There is the possibility that small, temporary stockpile(s) for the excavated rock may be required in the event that the barge(s) cannot contain all the daily excavated material (or the barge was prevented from being towed to the lakefill location due to for example, weather conditions). The potential stockpile locations would be near the dock wall and adjacent to the barge mooring locations (see **Figure 1** for approximated locations).

The bedrock material to be excavated from the Pedestrian Tunnel Project is Georgian Bay Formation Shale interbedded with limestone. Approximately 57,000 m<sup>3</sup> of rock is estimated to be extracted from the Pedestrian Tunnel Project (including the tunnel and the shafts). Given the depth of the rock, contamination is not expected. Appropriate testing will be undertaken to confirm this. Criteria as specified in the MOE 2011 *Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario* will be considered. The amount of material suitable for lakefill will depend on the size of the pieces extracted (“fine” sized material may not be deemed suitable for lakefilling). It is noted that the lakebed in Mississauga and east Oakville is composed of Georgian Bay Formation Shale, and this rock is exposed at locations along this section of the Lake Ontario shoreline. The near-shore waters of these areas are not subject to excess turbidity.



To confirm the suitability (durability) of the rock to be extracted from the pedestrian tunnel project for use of the construction of an “unconfined lakefill facility”, appropriate testing will be undertaken (e.g. “Slake Durability Test”). The material would only be used for an unconfined lakefill facility if these test result show that the material is of suitable durability and would not be prone to excess erosion by wave action/currents. If it is determined that the material is not considered suitable for unconfined lakefilling, then consideration for the creation of a confined facility would be made (e.g. creation of a “cap” with more durable rock on top of the lakefill facility (e.g. quarried stone, concrete rubble, etc.)..

### **3.2 Project Activities**

**Table 1** contains a list of Project activities for the purpose of conducting the screening. Subject to completion of the screening, and other matters that the TPA would need to complete to proceed with the Project, construction initiation could be expected in mid-summer 2012, with completion anticipated within 18 months of that.



**Table 1: Detailed Project Activities**

Project Component	Project Component Description	Physical Works and Activities
<b>3.2.1.1 Construction Activities</b>		
Material Stockpiling	There is the possibility that small, temporary stockpile(s) for the excavated rock may be required in the event that the barge(s) cannot contain all the daily excavated material. If needed, materials to be used for lakefill may be stockpiled at a location on BBTCA property near the water's edge.	Placement of stockpiled materials will be by dumping from dump trucks or more directly from adjacent excavation equipment. Runoff from any stockpiled materials will be strictly controlled. Some of the materials may be sorted at this time with the removal of materials unsuitable for lakefilling. The proposed location for the potential stockpile area is shown on <b>Figure 1</b> . The maximum height of the stockpile would be 3 m.
Transporting materials to the site	Materials for lakefilling will be transported to the site by barge and/or by truck.	<p>If required, stockpiled material would be removed using excavation equipment.</p> <p>Placement of the material will be done either directly into the lake by truck or onto a barge. Runoff control measures will be implemented to control erosion/sedimentation during loading and transport.</p> <p>If required, additional material sorting/screening practices will be carried out on land or on the barge to further prepare the material for lakefilling. This could include processes to remove the fine materials for disposal at more suitable locations. It is expected that the barge will anchor itself at the edge of the lakefill area to facilitate the unloading of the material.</p>



Project Component	Project Component Description	Physical Works and Activities
Site works/material placement	Site preparation works will be put in-place prior to material placement. Material placement will be directly from a barge or by truck.	<p>A sediment control barrier (likely a floating silt curtain) will encompass the Project to receive the fill materials. This will be extended from the water surface to the lakebed and provide total control for any suspended sediments that could result from any fines that remain in the material. Initially the materials will be dumped from the barge in such a manner to ensure proper distribution along the lakebed and to establish a working perimeter. Subsequent barges will fill in the perimeter area and result in the raising of the lakefill area to its final elevation. Final grading of the lakefill will be approximately 0.5 to 1.0 meters below the seasonal low water elevation in the area.</p> <p>In order to reduce noise, a bottom opening belly barge is recommended for use, subject to availability. These barges are equipped with underside trap doors that allow direct dumping over an area. They have the advantage of not requiring mechanized equipment to unload the material over the side of the barge. However, the use of the bottom opening barge may not be feasible in the shallower portions of the lakefill area and in the later stages of the lakefilling, due to minimum water depths that these barges require for their operation. The material in the barge would then need to be deposited into the lake using mechanized equipment.</p> <p>During winter periods, it may be necessary to push ice out of the area with motorized craft to allow lakefilling to continue.</p>
<b>Operation Activities</b>		
Monitoring	Monitoring of the lakefill to ensure that excessive erosion/turbidity does not occur.	Possible placement of more durable stone/rock on top of the lakefill area in the form of a “cap”.





Project Component	Project Component Description	Physical Works and Activities
<b>Decommissioning Activities</b>		
MEZ no longer required due to BBTCA changes	Removal and/or relocation of Transport Canada regulated Marine Exclusion Zone buoys and markers if no longer required for the BBTCA.	In the event the MEZ is no longer required, appropriate navigation markers to indicate the lakefill location and updates to the navigation charts will be undertaken.



### **3.3 Scope of Assessment**

Subsection 10 (2) of the *CPA EA Regulations* identifies the factors that must be considered in an EA, which have been considered in this EA.

**10(2) Every screening of a project shall include a consideration of the following factors:**

- (a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;*
- (b) the significance of the effects referred to in paragraph (a);*
- (c) comments from the public that are received as part of an assessment process, if any; and*
- (d) technically and economically feasible measures that would mitigate any significant adverse environmental effects of the project.*

**"Environment"** means the components of the Earth, and includes:

- (a) land, water and air, including all layers of the atmosphere;
- (b) all organic and inorganic matter and living organisms; and
- (c) the interacting natural systems that include components referred to in paragraphs (a) and (b).

**"Environmental effect"** means, in respect of a project:

- (a) any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*;
- (b) any effect of any such change referred to in paragraph (a) on
  - (i) health and socio-economic conditions,
  - (ii) physical and cultural heritage,
  - (iii) the current use of lands and resources for traditional purposes by aboriginal persons, or
  - (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or



- (c) any change to the project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

Subsection 10 (3) of the CPA EA Regulations requires the TPA to determine the scope of the factors to be considered under paragraphs 10 (2) (a), (b) and (d) [which are included above].

This environmental screening includes consideration of the environmental effects of the Project and other factors as required by the CPA EA Regulations, including the environmental effects of malfunctions or accidents that may occur in connection with the Project, and cumulative environmental effects that are likely to result from the Project in combination with other approved projects or activities that have been or will be carried out; the significance of the environmental effects and cumulative effects; comments from the public that are received; and technically and economically feasible measures that would mitigate any significant adverse effects of the Project.

The spatial boundaries for the effects assessment of the Project are focused on the lands in the vicinity of the Project which include lands along and adjacent to the proposed lakefill at the east end of the BBTCA. Other land uses in the larger area including those on the mainland and Toronto Islands have also been considered in this screening.

The temporal boundaries of the Project include:

1. **Construction** (the period from initial site preparation to the completion of construction and site restoration – expected to be about 18 months), and
2. **Operations** (the facilities are expected to last in excess of 25 years).

No decommissioning activities are anticipated at this time, which is typical for this type of project. Decommissioning would be required to comply with applicable laws at the relevant time (i.e. removal of MEZ as per Table 1 above).

### **3.4 Scope of Factors**

#### Environmental Factors

This environmental screening includes consideration of the effects caused by the Project during the short-term construction period and longer-term operations period. The screening includes consideration of the following environmental factors (even though it may not need to because,



for example, the Project would not be expected to cause a particular effect, especially during the operations phase), as appropriate and necessary:

- Biophysical
  - Noise
  - Air Quality
  - Groundwater
  - Water Quality and Quantity (drainage, hydrology, hydraulics and flooding)
  - Soils & Sediments
  - Terrain & Topography
  - Vegetation and Wildlife
  - Migratory Birds
  - Fish & Fish Habitat
  - Species at Risk
  - Provincially Significant Wetlands
  - Coastal and Shoreline

While not expressly or necessarily required to be assessed, the screening includes consideration of the effects of the Project on the following:

- Socio-economic
  - Economics/Businesses
  - Aboriginal Claims/ Traditional Use of Lands/Resources
  - Heritage & Archaeological Features
  - Land Use and Communities (existing and planned)
  - Social Features
  - Transportation and Navigation
  - Human Health (e.g., due to noise/vibration, air quality)

The effects assessment also considers the potential for the environment to affect the Project. This is focused on how extreme changes in weather and climate may impact the Project. The assessment includes:



- Effects of the Environment on the Project
  - Flooding due to extreme and/or prolonged weather events
  - Earthquakes
  - Climate Change

### **3.5 Potential Effects and Significance**

To determine the potential environmental effects as a result of the Project and the significance of the effects, the following assessment aspects were considered:

- What are the environmental effects of the Project?
- Are the identified effects positive or negative?
- Can the predicted negative effects be avoided or mitigated?
- After mitigation of negative effects, are there residual effects?
- Will other projects or activities cause negative effects that could combine cumulatively with effects of the Project?
- Taking into consideration any cumulative effects, what are the magnitude, geographic extent, duration and frequency of negative residual effects or positive effects?
- Are the residual negative effects reversible?
- Is the ecological setting of the undertaking sensitive?

### **3.6 Cumulative Effects**

As indicated, this environmental screening includes assessment of the environmental effects of the Project, as required by the CPA EA Regulations, including an assessment of cumulative environmental effects.

Activities and projects that exist, or will reasonably be expected to exist before/during construction of the Project, are included in the description of the baseline environmental conditions.

Cumulative effects need to be considered if the project itself is to result in environmental effects. Where there are Project effects, the screening includes consideration of such effects in combination with the effects of other applicable projects and activities to determine whether there would be cumulative effects. The cumulative effects assessment includes consideration

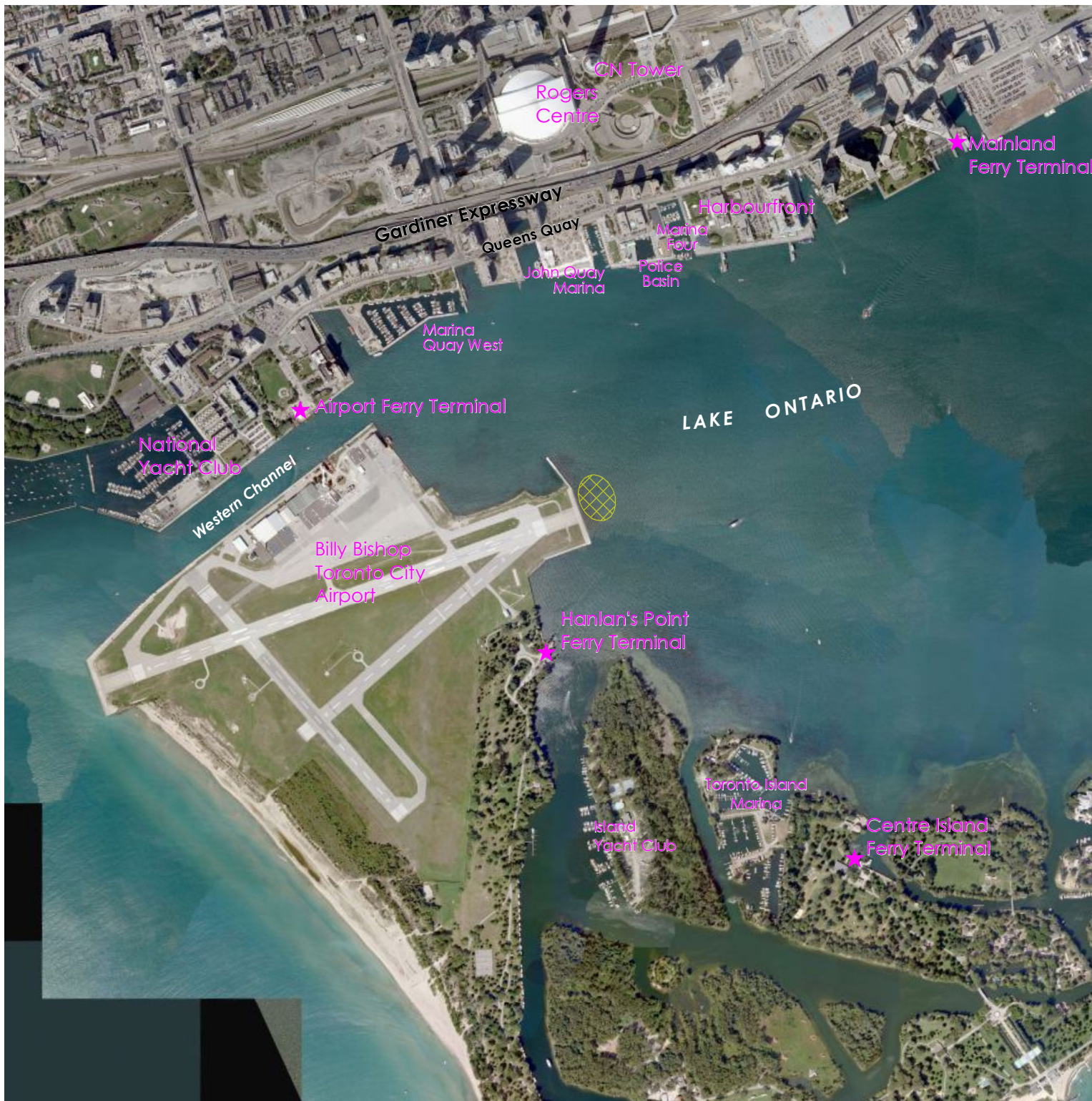


of effects from projects or activities where there is a reasonable expectation for the project or activity to occur (such as a commitment to develop a project) and there is potential for effect overlap with the Project in terms of time and space.

## **4 BASELINE ENVIRONMENTAL CONDITIONS**


Section 4 provides a description of the existing environmental and social features in the “project area” or “study area”. The project area or study area includes the lands/features that the project components are located within and/or could affect. While most project effects are expected to be localized, some effects (e.g. construction noise) could extend further out to say the mainland and Toronto Island. As such, a description of the features in these outer areas has been provided. **Figure 2** shows the location of features in the study area.





**TORONTO PORT AUTHORITY**  
BILLY BISHOP TORONTO CITY AIRPORT  
PROPOSED LAKEFILL CEEA PROJECT  
DESCRIPTION

**GENERAL PROJECT LOCATION**  
FIGURE #2

 PROPOSED LOCATION OF LAKEFILL

NTS



MAP DRAWING INFORMATION:  
DATA PROVIDED BY MNR  
GOOGLE EARTH PRO

MAP CREATED BY: GSM  
MAP CHECKED BY: EC  
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\dillon.ca\DILLON\_DFS\Toronto\Toronto GIS  
\126110\Mapping\General Project Location.mxd



## **4.1 Biophysical Environment**

### **4.1.1 Noise**

The sound environment in the Project area is typical of an airport, with the predominant sound levels generated from groundside and airside aircraft activities. In addition, due to the Project area's proximity to Downtown Toronto, a level of background noise or "urban hum" is present, which is primarily generated from traffic on the Gardiner Expressway and nearby roadways such as Lake Shore Boulevard and Queens Quay. Harbour boat traffic including the Island Ferry would also contribute to background sound levels near the project location.

Adjacent land uses to the project location are related to the airport. (e.g. hangars, terminal, administration, etc.). There are no residents in the immediate vicinity of the project area. The closest noise receptors to the project location are located on the mainland along Queens Quay (west of Spadina Ave.) and are about 825 m away. To the south of the proposed project location, are the Toronto Islands. The closest public land to the project location is the Hanlan's Point Ferry Terminal – about 325 m to the south-west.

A review of monthly Noise Comment Summary data published by the TPA show that the majority of noise complaints in the vicinity of the BBTCA come from the Bathurst and Queens Quay community, which is situated directly north of the airport. This community experiences noise from the BBTCA as well as from road and rail traffic from the north (not BBTCA related), including from the Gardiner Expressway, Lake Shore Boulevard and rail corridor running parallel to the Expressway. The BBTCA is in compliance with the Noise Exposure Forecast (NEF) noise levels generated from airside traffic. There are no applicable sound limits for groundside air traffic which can involve short burst of loud aircraft related noise. It is this noise that is a prime source of residents' complaints.

The 2010 Jacobs *Noise Management Study* assessed the noise conditions in the communities surrounding the BBTCA and Project area. The study found that the Bathurst Quay community (on the north side of Western Channel across from the BBTCA) experienced sound level ranging between 48 and 61 decibels<sup>†</sup> on an average day (5:30am to 9pm). The study notes that these are typical sound levels found in urban areas, which usually range from 50 to 70 decibels. The higher sound levels experienced in the Bathurst Quay community were documented as resulting from traffic on the Gardiner Expressway, local roads traffic, and aircraft take-offs and

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<sup>†</sup> A decibel is a logarithmic measure of the magnitude of sound,





landings at the BBTCA. The study also found that the York Quay community (northeast of the BBTCA on the Toronto Waterfront) experienced sound levels ranging between 54 and 69 decibels on an average day (4:30am to 10pm). The higher sound level (69) experienced in the York Quay community was documented as being from outdoor music, kids playing, and a turboprop aircraft take-off at the BBTCA. Other higher sound levels in this area were noted as coming from traffic on the Gardiner Expressway and Queens Quay. Noise monitoring in the Toronto Island residential community on Wards Island, east of the BBTCA, was also completed in the Jacobs study. The results stated that sound levels were experienced between 48 and 57 decibels; the higher levels resulting from turboprop aircraft take-offs and landings at the BBTCA as well as overhead aircrafts.

#### **4.1.2 Air Quality**

For this environmental component a wider Study Area was considered for the Project activities relating to the lakefill. The dominant sources of airborne emissions in the Project area are aircraft at the BBTCA. Other contributors would be road traffic in the City including for example the Gardiner Expressway, Lake Shore Boulevard, Queens Quay and other local roadways on the mainland. Ferry Boat traffic that passes near the proposed facility location would also influence air quality conditions. There are no significant industrial air pollution sources in the Project area. There are also no sensitive receptors to air emissions in the immediate Project area (see previous section for description of closest receptors to project location). The buildings and current activities in the Project area are all related to airport activities and are highly regulated to comply with airport operations, security and safety.

Airport activity (ground side and airside) would also contribute to air contaminants in the surrounding communities north of the BBTCA. Carbon monoxide and oxides of nitrogen are the emissions of interest for aircraft that would contribute to air quality in the surrounding communities.

While the specific characteristics of air quality conditions of the proposed project location are not known, the air quality study completed by RWDI in 2011 for the TPA provides background information on local air quality conditions in the general area. The RWDI Air Quality Study was commissioned by the TPA to understand air quality conditions in the Bathurst Quay community on the north side of the Western Channel just north of the BBTCA (about 900 m away from the project location). The RWDI study found that the modelled concentration of carbon monoxide in the Bathurst Quay area in 2011 was 2,903  $\mu\text{g}/\text{m}^3$  which is below the Ontario Ministry of Environment's (MOE) maximum Ambient Air Quality concentration level for carbon monoxide



(see **Table 2**). The study also found that the nitrogen dioxide concentration level was  $125 \mu\text{g}/\text{m}^3$  which is also below the MOE's maximum Ambient Air Quality concentration level for nitrogen dioxide (see **Table 2**).

The Ontario Ministry of Environment's (MOE) ambient air quality criteria (AAQC) are presented to compare the results of the modelled air emission levels. The MOE AAQC represents the maximum desirable ambient air pollutant levels and is used for reference. The 2011 modelled levels are well below applicable air quality criteria maximums.

**Table 2**  
**Summary of AAQC and 2011 Emissions Levels from Combined Roadway, Ferry and Airport Emissions**

	Averaging Period	Current ( $\mu\text{g}/\text{m}^3$ )	AAQC - Criterion ( $\mu\text{g}/\text{m}^3$ )
Carbon Monoxide (CO)	1 Hour	2,903	36,200
	8 Hour	1,268	15,700
Nitrogen Dioxide (NO <sub>2</sub> )	1 Hour	125	400 [200]
Inhalable Particulate Matter (PM <sub>10</sub> )	24 Hour	14	50*
Respirable Particulate Matter (PM <sub>2.5</sub> )	24 Hour	3.2	30 <sup>†</sup> [25]

[ ] World Health Organization Guideline Standard

† Canada Wide Standard (CWS) by year 2010 based on the 98<sup>th</sup> percentile ambient measurement annually, averaged over 3 consecutive years.

\* Interim Ambient Air Quality Criterion.

#### 4.1.3 Groundwater

For the TPA's *Environmental Screening for the Proposed Pedestrian/Services Tunnel and Perimeter Project* (completed March 2011), SPL Consultants Limited completed a *Factual Data Report on Supplementary Geotechnical and Hydrogeological Investigation* (February 2011). This report included data on groundwater conditions at the BBTCA, which included lands near the project location. The observed depth to groundwater during the SPL geotechnical investigations was approximately 1.8 to 2.2 metres below ground surface (mbgs). This depth is equivalent to the elevation of Lake Ontario (water table) and the flow direction is inferred to be towards the Lake.



#### **4.1.4 Water Quality**

The Lakefill Project is to be located in the Toronto Harbour of Lake Ontario. Within the Harbour, heavy metals and organics are particularly common. The harbour is negatively affected by the contaminated waters from the combined loadings of the Don River and the numerous storm and combined sewer outfalls, as well as point sources of contaminants such as the shipping channel at the Toronto Port Lands. The Toronto and Region Remedial Action Plan (RAP) and Aquatic Habitat Toronto are charged with improving water quality in the Toronto waterfront area. The Toronto RAP report, *Moving Forward: 2007 RAP Progress Report*, was published in 2009 and describes current water quality conditions. There have been concentrations of nutrients and fecal coliform bacteria along the entire Toronto Waterfront that are above Provincial Water Quality Objectives.

#### **4.1.5 Soils & Sediments**

The geotechnical investigations done by SPL in 2010 for the proposed BBTCA Pedestrian/Services Tunnel and Perimeter Road, as well as the following documents were used to describe the regional physiography and expected local geology/hydrogeology in the Project area.

- The Physiography of Southern Ontario, Chapman and Putnam, 1984.
- Quaternary Geology of Toronto and Surrounding Area, Southern Ontario. Map 2204, Ontario Geological Survey, 1980.
- Bedrock Geology of Ontario, Southern Sheet, Ontario Geological Survey, 1991.

Based on Chapman and Putnam, the area is within the Iroquois Plain physiographic region. The Iroquois lake plain consists of clay till deposits and sand deposits as a result of deposition from glacial Lake Iroquois.

Bedrock geology mapping for the Project area indicates that the area is underlain by bedrock of Upper Ordovician age Georgian Bay Formation, which consists of shale, limestone, dolostone and siltstone. The results of geotechnical investigations completed describe the overburden and bedrock to consist of approximately 8 m of silty sand fill, underlain by bedrock of the Georgian Bay Formation, which is primarily shale with minor interbeds of siltstone and limestone that slopes gently to the south.



#### **4.1.6 Terrain & Topography**

The terrain for the airport lands is flat and has been prepared for airport activities. The lakefill is proposed adjacent to lands that are paved for airport activities. See **Appendix A** for a description of bathymetry for the proposed project location.

#### **4.1.7 Vegetation and Wildlife**

Vegetation and wildlife in and around the BBTCA and the Project Location is actively managed on an on-going basis by the Port Authority to accommodate airport operations and minimize potential risks to aircraft and the travelling public.

The lands adjacent to the proposed lakefill area are largely paved and developed as runway, taxiway and apron. A small area of grass exists on the north and south sides of the Runway 26 threshold which is maintained by the BBTCA and represents the only vegetation found adjacent to the Project Location. Vegetation communities located south of the Project Location on the main island and more removed from the Runway 26 comprise more natural conditions although they too are managed (*i.e.*, periodically mowed) on an on-going basis by BBTCA. Through the Ecological Land Classification (ELC) for Southern Ontario (Lee *et al.*, 1998) this area was assessed as Parkland (CGL-2) (**Figure 3**).

The shoreline of the Lake Ontario where the lakefill is proposed is characterized by sheet pile wall with no natural shoreline/riparian vegetation or habitat.






The wildlife that has been observed in the area of the Project Location is limited to birds and includes Double-crested Cormorants (*Phalacrocorax auritus*), Mallards (*Anas platyrhynchos*), Canada Geese (*Branta Canadensis*), Rock Doves (*Columba livia*), American Robin (*Turdus migratorius*) and Ring-billed Gulls (*Larus delawarensis*) (birds in the Project area are discussed further in section 4.1.8 Migratory Birds). Residents have reported observing a number of bird/waterfowl species in the Western Channel/Harbour. No mammals have been observed during visits to the project area. The presence of mammals in the vicinity of runways, taxiways and aprons at BBTCA is actively managed through habitat modification, monitoring and deterrents.





**TORONTO PORT AUTHORITY**  
 BILLY BISHOP TORONTO CITY AIRPORT  
 PROPOSED LAKEFILL CEEA PROJECT  
 DESCRIPTION

**ECOLOGICAL LAND CLASSIFICATION**  
 FIGURE #3

-  MARINE EXCLUSION ZONE BUOY LOCATIONS
-  PROPOSED POTENTIAL LOCATION OF STOCKPILE
-  PROPOSED LOCATION OF LAKEFILL
-  GGL-2: PARKLAND
-  MANICURED LAWN

NTS



MAP DRAWING INFORMATION:  
 DATA PROVIDED BY MNR  
 GOOGLE EARTH PRO

MAP CREATED BY: GSM  
 MAP CHECKED BY: EC  
 MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\dillon.ca\DILLON\_DFS\Toronto\Toronto GIS  
 \126110\Mapping\Project Location Plan-Proposed Turbidity Curtain.mxd



#### 4.1.8 Migratory Birds

The lakefill area provides limited to no bird habitat, migratory or otherwise. The terrestrial environment adjacent to the proposed lakefill area is not considered as prime bird habitat for breeding, nesting or stopover. As noted above, it is manicured grass and paved runway, taxiway and apron for BBTCA. In addition, BBTCA actively manages the bird populations, migratory or otherwise, around the airport with active deterrents to accommodate airport operations and minimize potential risks to aircraft and the travelling public. The MEZ may be utilized by migratory bird species as a stopover area; however, the BBTCA wildlife management practices and air traffic are significant deterrents for the MEZ as a stopover area.

#### 4.1.9 Fish & Fish Habitat

The Project Location is within the Toronto Inner Harbour and the BBTCA MEZ. Since boats are not permitted to enter the MEZ, there have been no recent studies completed documenting fish species present within the Project Location. Information from surrounding areas of Lake Ontario was provided by the Department of Fisheries and Oceans (Emily Morton, Personal Communication, 2012) and based on the transient nature of most fish species, this information is believed to apply to the project location. Fish and Mussel species potentially occurring within the vicinity of the Project Location include:

**Table 3: Species Potentially Occurring within the Vicinity of the Project Location**

Fish Species	Mussel Species
<ul style="list-style-type: none"> <li>Alewife (<i>Alosa pseudoharengus</i>)</li> <li>American Eel (<i>Anguilla rostrata</i>)</li> <li>Banded Killfish (<i>Fundulus diaphanous</i>)</li> <li>Bluegill (<i>Lepomis macrochirus</i>)</li> <li>Bluntnose Minnow (<i>Pimephales notatus</i>)</li> <li>Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)</li> <li>Common Carp (<i>Cyprinus carpio</i>)</li> <li>Emerald Shiner (<i>Notropis atherinoides</i>)</li> <li>Freshwater Drum (<i>Aplodinotus grunniens</i>)</li> <li>Gizzard Shad (<i>Dorosoma cepedianum</i>)</li> <li>Golden Shiner (<i>Notemigonus crysoleucas</i>)</li> <li>Goldfish (<i>Caraius auratus</i>)</li> <li>Lake Herring (<i>Coregonus artedii</i>)</li> <li>Lake Whitefish (<i>Coregonus clupeaformis</i>)</li> <li>Northern Pike (<i>Esox lucius</i>)</li> <li>Rainbow Smelt (<i>Osmerus mordax</i>)</li> <li>Shorthead Redhorse (<i>Moxostoma macrolepidotum</i>)</li> </ul>	<ul style="list-style-type: none"> <li>Eastern Floater (<i>Pyganodon cataracta</i>)</li> <li>Eastern Pondmussel (<i>Ligumia nasuta</i>)</li> <li>Fatmucket (<i>Lampsillis siliquoidea</i>)</li> <li>Giant Floater (<i>Pyganodon grandis</i>)</li> </ul>



<ul style="list-style-type: none"> <li>• Slimy Sculpin (<i>Cottus cognatus</i>)</li> <li>• Spottail Shiner (<i>Notropis hudsonius</i>)</li> <li>• Teelated Darter (<i>Etheostoma olmstedii</i>)</li> <li>• Threespine Stickleback (<i>Gasterosteus aculeatus</i>)</li> <li>• White Bass (<i>Morone chrysops</i>)</li> <li>• White Perch (<i>Morone americana</i>)</li> <li>• Whitefish (<i>Coregonus</i> sp.)</li> </ul>	
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Past electrofishing studies in the nearby Western Channel have typically reported very low abundances throughout the growing season (Rick Portiss, TRCA, *personal communication* during the Pedestrian/Service Tunnel and Perimeter Road screening). The most common fish species surveyed in the nearby Spadina Quay (approximately 600m northwest of the lakefill area) from 2005 to 2009 were Alewife, Northern Pike, Emerald Shiner, Spottail Shiner, Pumpkinseed (*Lepomis gibbosus*) and Common Carp.

Since boats and persons are not permitted to enter the MEZ, specific information regarding fish habitat elements (e.g., substrate) is not available. However, observations made from shore during field studies, and confirmed by Aquatic Habitat Toronto (Meg St. John, Personal Communication, 2012), indicate that the substrate consists primarily of silt with some limestone riprap closer to the shoreline. There is also a small volume of sand that has accumulated along the eastern extent of the northern revetment, on the west side of the eastern pier (Baird 2012). This is a well-sheltered area due to the abutting pier.

Other habitat features (e.g., submergent vegetation, shoals, submerged timber) that would provide cover for fish appear to be limited in the project location. The composition of the lakebed is not well-known beyond that which is visible from the shoreline. There is little submergent vegetation in the lakefill area, only filamentous algae (*Cladophora* sp.) were observed during field studies. The water depth of the project location decreases gradually from approximately 1.5 m adjacent to the existing east-facing steel sheet pile to approximately 7.5 m at the eastern extent of the proposed lakefill area (approximately 67 m offshore) (Baird 2012).

The project location may serve as a movement corridor for fish moving between the Toronto Harbour southward to the Ontario Place shoreline and/or eastward to the shoreline and embayments at Tommy Thompson Park where more favourable fish habitat characteristics exist (i.e., shallower shorelines or littoral zones for cover, aquatic plant beds, forage, and spawning and nursery areas). Sheltered embayments provide warmer water conditions, areas of aquatic vegetation and more complex shoreline characteristics. Moreover, water currents





between embayments and open areas attract forage fish, providing a concentrated feeding area for predator species (Aquatic Habitat Toronto, 2002).

#### **4.1.10 Species at Risk**

According to the Department of Fisheries and Oceans Canada (DFO) and Conservation Ontario (2012) mapping, three species at risk have the potential to inhabit the area of the Project Location:

- American Eel has been observed along the shoreline of the Toronto Islands and the BBTCA. Currently, American Eel are designated as *Special Concern* federally and *Endangered* provincially. American Eel migrate from the Atlantic Ocean to continental North America, occupying all salinity zones, including shallow and sheltered marine waters, estuaries, and freshwater rivers and lakes. While inhabiting the near-shore, American Eels exhibit highly variable habitat use but tend to be benthic, using substrate and bottom debris as protection and cover.
- Silver Lamprey (*Ichthyomyzon unicuspis*) has been observed along the shoreline of the Toronto Islands and the BBTCA. This species is currently designated as *Special Concern* federally. Silver Lamprey ammocoetes live in burrows in stream substrate, usually composed of silt and sand. After metamorphosis, juveniles live within the stream or migrate to larger tributary streams or lakes where they will feed and grow to maturity. Spawning individuals typically construct nests in shallow riffle areas within streams (COSEWIC 2011).
- Eastern Pondmussel has been observed along the shoreline of the Toronto Islands and the BBTCA. Currently, Eastern Pondmussel is designated as *Endangered* provincially and federally. This species occupies sheltered areas of lakes, slow streams, and canals, preferring fine sand and mud substrates ranging at depths ranging from 0.3 to 4.5 m.

The proposed lakefill area does not provide unique habitat characteristics that are specifically targeted by any of the three Species at Risk described above.

#### **4.1.11 Provincially Significant Wetlands**

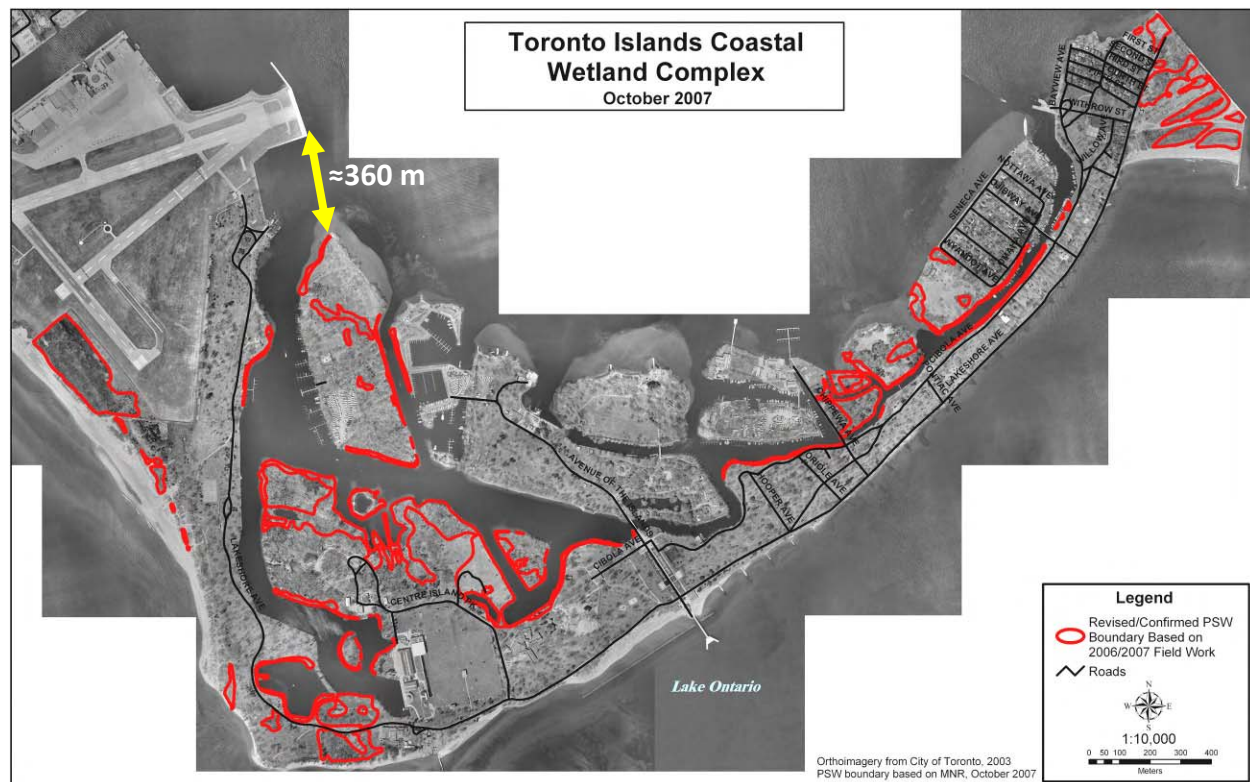
The Toronto Islands Coastal Wetland Complex was identified as approximately 360 metres from the Project Location at its closest point (See **Figure 4**). There is no surface or subsurface





connection between the proposed lakefill area and the Provincially Significant Wetland (PSW) complex.

**Figure 4: Toronto Islands Coastal Wetland Complex (North-South Environmental 2009)**



#### 4.1.12 Coastal and Shoreline

Coastal conditions within the Toronto Harbour including bathymetry, water levels, wind and wave climate, currents and ice are described in the report prepared by Baird and Associates that is included in **Appendix A**. Key coastal environment characteristics of the study area are as follows:

- The shoreline in the vicinity of the project location has been stabilized with shoreline protection features including steel sheet pile faces and area of revetments (dumped armour stone and rip rap).
- Lake levels depths of the project location range from 1.5 m (below chart datum) in near shore areas to approximately 8m below CD at about 70 m from the shoreline



- The historic variation in water levels between maximum and minimum hourly levels in the harbour is about 2 m. In a typical year, lake levels vary by about 1 m with the Low point being in the Fall and the High point in Summer.
- Wave heights are reported to be less than 0.4 m for 98% of the hourly record
- The harbour is isolated from sediment sources and there is virtually no sediment transport through the Eastern and Western Gaps. While the Don River was a historic source of sediment, it now empties into the Keating Channel which is regularly dredged.

## **4.2 Socio-Economic Environment**

### **4.2.1 Economics/Businesses**

There are a number of businesses located on the island at the BBTCA. These include:

- Aeromag;
- Air Bravo;
- Air Canada/Sky Regional Airline Inc.;
- Airborne Sensing Corporation (aerial photographers);
- ASP Security;
- BBTCA Administration and Business Offices;
- Cameron Air Services;
- Canadian Helicopters;
- CATSA/GARDA;
- Canada Border Services Agency (CBSA);
- Eagle Aircraft Inc.;
- The Helicopter Company;
- Island Air Flight School & Charters;
- Ministry of Health/ORNGE;
- Nav Canada / Control Tower;
- Porter Airlines;
- Porter FBO;



- Trans Capital Air; and,
- Stolport Corporation.

None of the businesses located in the Project area are on the lands proposed for the location of the lakefill.

On the mainland, to the north of the proposed project location, there area a variety of commercial uses along the waterfront the closest of which would be the Marina Quay West which is located about 750 m from the proposed project location and the Toronto Island Marina that is located about 775 m to the south east (located on Centre island). It is noted that the Toronto Island Sailing Club operates out of the Toronto Island Marina. Over 30 tour boats operate in the Toronto Harbour and surrounding area. The tour boats operate from approximately April to October. The proposed lakefill will be located within the Marine Exclusion Zone; consequently, boating activity is excluded from operating within the lakefill area.

#### **4.2.2 Aboriginal Claims/Traditional Use of Lands/Resources**

On May 29, 2010, the Mississaugas of the New Credit First Nation voted in favour of a land claims settlement with the federal government pertaining to land in Toronto and Burlington Ontario. The land claim and agreement is known as the *Toronto Purchase and Brant Tract Specific Claim Settlement Agreement and Trust Agreement*. The settlement resolves two land claims: the Brant Tract purchase of 1797, and the Toronto purchase of 1805, which include lands in the Project area, stretching from present day Etobicoke Creek in the west to Ashbridge's Bay in the east, and from the Toronto Islands to north of the city limits. The settlement does not affect ownership of any of the land for the proposed Project, as indicated by the Department of Indian and Northern Affairs Canada (<http://www.ainc-inac.gc.ca/ai/mr/nr/j-a2010/23312bkg-eng.asp>). We are not aware of any other land claim within the Project area or any traditional uses by Aboriginals of relevant land or resources. Further detail regarding contact made with First Nation communities is discussed in the Consultation section, **Section 6.0**.

#### **4.2.3 Heritage and Archaeological Features**

The airport lands immediate adjacent to the proposed project location were created by lakefill activities. The proposed project site and the lands immediately adjacent to it are not known to have any built heritage features. As referenced in *The Archaeological Master Plan for the Central Waterfront, City of Toronto, Ontario* (2003), the Toronto Islands, including portions of



the airport lands, were created by the confluence of easterly sand-bearing currents, westerly winds and the outflow of the Don River along the Toronto central waterfront. **Figure 5** illustrates the archaeological classification of the Project area. The yellow highlighted area depicts the original shape and location of the islands. The yellow also indicates the portion of the Project area that is classified in the City's report as a Level 1 Archaeological Potential Zone.

According to the City's Report, Level 1 Archaeological potential zones “comprise those lands where archaeological potential has been confirmed to exist on the basis of the results of this and other studies. The lands adjacent to the proposed project location have not been identified to have archaeological potential. The TPA is not aware of any marine archaeological resources in the project location.

**Figure 5: Archaeological Potential Classification**



#### 4.2.4 Land Use

Land use in the immediate vicinity of the lakefill consists entirely of uses related to the BBTCA including runways, the terminal building, the Ferry Passenger Transfer Facility, hangars, parking



lots, and other administrative buildings. The TPA is responsible for planning and managing the lands at the BBTCA.

#### **4.2.5 Social Features**

The Project location is on the edge of the BBTCA lands within the Toronto Harbour. The closest social feature would be Toronto island recreation lands that are located to the south and south-west of the proposed project location (the closest public lands to the project location are about 350 m away near the Hanlan's Point Ferry Terminal). The closest residential building to the project is about 825 m to the north (located on Queens Quay just west of Spadina Ave.). The Bathurst Quay Community is located to the north-west and the closest residential buildings are at least 950 m away from the project location. The Island Yacht Club on Mugg's Islands is located to the south about 750 m away.

The Toronto Harbour is used extensively for recreational boating.

#### **4.2.6 Transportation and Navigation**

The following describes air traffic and water vessel traffic activity in the vicinity of the proposed project location.

##### *Air Navigation*

NAV Canada regulates the airport navigations for flights departing and arriving at the BBTCA. Air traffic into and out of the BBTCA is controlled by the BBTCA with approaches and departures routed over the lake away from residential areas. With one 1,212 metre long (4,000 feet) runway and two 909 metre (3,000 feet) runways, the BBTCA can accommodate most regional scheduled airlines and other general aviation aircraft. Turboprops are the most frequent type of aircraft utilizing the airport. Helicopters also use the airport and there is a seaplane base located just east of the main apron. Traffic from Turbofan jet engines is prohibited at the BBTCA except in emergencies and medical evacuation scenarios.

Porter Airlines and Air Canada are the two major airlines that operate out of the BBTCA. In 2011, the airport had about 11,000 commercial aircraft movements and a passenger volume of over 1.5 million people.

The proposed location for the lakefill (see **Figure 1**) is at the east end of the BBTCA. The proposed project concept design, stockpiling area, and timing and method of construction are being reviewed by NAV Canada.



### Water Navigation

The location for the proposed lakefill is within the Toronto Harbour within the Marine Exclusion Zone which prohibits boat traffic. Tour boats, Toronto Island ferry boats, and recreational boats use the inner Harbour in the vicinity of the project location (outside the MEZ).

## **5 ENVIRONMENTAL EFFECTS AND MITIGATION**

This section describes the potential environmental effects of the proposed Project, taking into account the Project's physical works/activities and the baseline environmental conditions as presented in Section 4.0. Effects may be positive or negative.

**Table 4** outlines the potential Project components/environmental feature interactions that the assessment was based on.

In assessing construction-related effects, it was assumed that construction of the lakefill would be initiated in mid-summer 2012 and last for approximately 18 months.

The effects assessment describes how environmental conditions could change from the construction of the project and with the Project in place (i.e., compared to the baseline conditions).

For each of the identified environmental components, the following sections describe the assessment of (i) the potential for effect, (ii) the significance of the effect, and (iii) proposed mitigation, as necessary and appropriate. **Table 5** (located at the end of the discussion) summarizes the potential environmental effects (including the significance).





**Table 4 - Project Components/Environmental Feature Interactions**

Environmental Component	Noise	Air Quality	Ground Water	Surface Water	Soils & Sediments	Terrain & Topography	Vegetation / Wildlife	Migratory Birds	Fish & Fish Habitat	Species at Risk	Provincially Significant Wetland	Economics	Aboriginal Use of Traditional Land /Res.	Heritage & Archaeological	Land Use	Social	Transportation & Navigation	Human Health / Safety <sup>†</sup>
Note: ✓ = Potential interaction X = no interaction																		
<b>Construction Activities</b>																		
Material stockpiling	✓	✓	X	✓	X	X	X	X	✓	X	X	X	X	X	X	X	X	✓
Transporting materials to the site	✓	✓	X	✓	X	X	X	X	✓	X	X	X	X	X	X	X	X	✓
Site works/ material placement	✓	✓	X	✓	✓	X	X	X	✓	X	X	X	X	X	X	X	X	✓
<b>Operations</b>																		
No operation activities are planned for the lakefill area																		
<b>Decommissioning or Abandonment</b>																		
No decommissioning activities are planned.																		

<sup>†</sup> Human Health/Safety is in regards to how effects on other environmental conditions may in turn interact with human health or safety. E.g.: Effects to air quality may effect human health; or, effects to transportation and navigation may effect safety.



## **5.1 Effects and Mitigation for the Biophysical Environment**

### **5.1.1 Noise**

#### **Construction Effects on Noise and Mitigation**

##### *Effects*

The use of construction equipment during the construction of the proposed lakefill would result in temporary noise effects. Due to the flight navigations and operating safety restrictions at the BBTCA, the fill material can only be deposited when the airport runways are closed between 11 PM and 6:45 AM. To reduce noise effects it is proposed that the lakefill material be deposited on a regular basis to shorten the construction period of even event. If initiated at around 11 pm, it is expected that each lakefill event can be completed by 12 midnight if not sooner.

The proposed lakefill location is well removed from surrounding communities. The closest residential noise receptor to the project location is about 825 m away (along Queens Quay). Background noise levels for these residential areas are relatively high due to road traffic noise (e.g. Gardiner Expressway/Lakeshore Blvd). The Island Yacht Club on Mugg's Islands is located to the south about 750 m away.

It is noted that much of the distance between the project location and the closest receptors is over water, which can result in a sound being more audible (than over a land surface). Despite the high background sound levels of receptor location and the large separation distance, there is still potential for the night-time lakefill activity to be heard from people on the mainland. Night-time lakefilling activity may also be heard from locations on the Toronto Islands (e.g. Island Yacht Club).

The loading of the excavated material from the Pedestrian Tunnel Project onto the barge(s) replaces the loading onto trucks, consequently avoiding the transportation of the excavated material by trucks and reducing the traffic and noise impacts to the Bathurst Quay community. The TPA is very aware of the local community concerns regarding night-time noise from the construction of the project. Mitigation measures to minimize noise are recommended below.



### *Mitigation*

The loading of material onto the barge or stockpiling activities as part of the Pedestrian Tunnel Project are expected to occur largely during the day. A potential issue is the night-time generated noise from the deposition of the material into the lake. Material off-loading into the lake is proposed to be done on a regular basis to minimize the length of time that noise may be generated from each nightly event. Further, the TPA is investigating methods for deposition that would reduce noise levels (e.g. use of bottom opening barges to reduce the use of loaders on the barge). The use of a bottom-opening barge would be subject to availability and feasibility depending on the depth of water (see previous Table 1). Any noise complaints would be addressed and responded to by the TPA. The TPA will establish a monitoring, reporting and response program to deal with all aspects of construction, including complaints regarding noise. Lakefilling activity can be a topic for discussion for the already established Pedestrian Tunnel Project construction monitoring committee that the TPA has organized.

### Noise Effects Significance

Construction related noise effects will be occasional and temporary. The TPA is aware of the night-time noise concerns of the mainland community. Residential noise receptors are well removed from the project location (at least 825 m away on the mainland). With construction being completed in a noise sensitive manner, it is expected that the project can be completed without significant noise effects on the local community. Frequent dumping of the material to reduce the noise period of each event, and use of a bottom opening barge (subject to availability and feasibility) is recommended. The Project, once constructed, will not cause noise effects. Unless capping of the lakefill with a more durable rock is found to be necessary in the future to minimize erosion. Similar short term noise effects may result from such an activity.

## **5.1.2 Air Quality**

### Construction Effects on Air Quality and Mitigation

#### *Effects*

The use of construction equipment during the construction of the lakefill may result in some air quality effects from machinery emissions and dust from the movement of the fill material. Air emissions are anticipated to be localized. Receptors are well removed from the project location (closest residential receptors are 825 m away on the mainland and users of the Toronto Island marina/Yacht club to the south – about 750 m away).



### *Mitigation*

During the construction period, the TPA will require contractors to follow standard construction practices in order to mitigate air quality effects, including:

- Use well-maintained equipment and machinery, preferably where feasible, fitted with muffler/exhaust system baffles and engine covers;
- Comply with operating specifications for equipment and machinery;
- Minimize operation and idling of gas-powered equipment and vehicles, in particular, during smog advisories;
- Minimize vehicular traffic on exposed soils;
- Spray water to manage the release of dust from and the stockpiled material;
- Restore disturbed areas as soon as feasible to minimize the duration of soil exposure.

### Air Quality Operation Effects and Mitigation

There would not be any air emission from the Project once it is constructed as the facility will be below water.

### Air Quality Effects Significance

Construction related air quality effects would be localized and temporary, with mitigation and monitoring plans to manage (and thus minimize) short-term effects. By using practices as previously noted, construction related air effects are expected to not be significant. There will be no air emissions from the facility once it is constructed. As such, the Project is not expected to have a significant adverse impact on air quality.

#### **5.1.3 Groundwater**

As the proposed Project is a lakefill facility, ground water would not be affected by the Project.

#### **5.1.4 Water Quality**

### Construction Effects on Water Quality and Mitigation

### *Effects*

Potential water quality impacts from the construction of the Project relate primarily to the potential for sedimentation during the deposition of the material into the inner Harbour. This



could occur during rainfall events and the generation of run-off from the stockpile area of material on the BBTCA and during the deposition of the material into the lake.

### *Mitigation*

To manage run-off from the stockpile area, a sediment control plan will be developed giving consideration to available guidance materials including for example:

- *Ontario MOE Stormwater Management Planning and Design Manual (2003);*
- *Ontario Provincial Standards and Specifications (OPSS 518 & 577); the Ontario MOE Stormwater Pollution Prevention Handbook (Part I) and the Part II – Pollution Prevention and Flow Reduction Measures Fact Sheets;*
- *Ontario MNR Guidelines on Erosion Control for Urban Construction Sites (1989),*
- *MNR Technical Guidelines- Erosion and Sediment Control (1989), and*
- *City of Toronto Wet Weather Flow Master Plan 2003.*

The sediment control plan will be designed and implemented to mitigate impacts associated with construction of the Project, to prevent suspended sediment, from entering the Harbour. Silt fences/curtains, sediment traps should be installed as necessary and appropriate.

In regards to the actual lakefilling activity, sedimentation effects will be minimized by: management of the lakefill material (e.g., extracted rock from the pedestrian tunnel project) to minimize the amount of fine material that would be deposited; and, the installation of a silt curtain around the active fill areas of the project location to trap and capture suspended sediments during the lakefill Project. See the Fisheries section for more details on the use of the silt curtain.

The project site would be monitored during and after construction to ensure that sedimentation/turbidity effects are not occurring. Should an unacceptable amount of sedimentation occur after the Project is in place, additional mitigation would be implemented to resolve the problem. This could include the capping of the lakefill with additional rock that is more durable and resistant to wave action and sedimentation.



### Surface Water Effects Significance

With the implementation of the recommended mitigation measures above, it is expected that sedimentation effects in the Harbour will be minimal and adverse significant effects would not occur.

#### **5.1.5 Soils and Sediments**

See previous section regarding the potential for sedimentation effects.

#### **5.1.6 Terrain and Topography**

As the Project involves lakefill, there would be minimal terrain alteration. The stockpiling of material on the BBTCA would be temporary and not result in long term terrain alterations.

#### **5.1.7 Vegetation and Wildlife**

### Construction Effects on Vegetation and Wildlife and Mitigation

#### *Effects*

The proposed lakefill Project is expected to result in minor localized impacts on the vegetation and wildlife components of the terrestrial environment. There is little natural vegetation within the area proposed for the material stockpiling that could provide habitat for wildlife.

Moreover, vegetation communities, wildlife and wildlife habitat potentially affected by lakefill operations are actively managed to minimize the presence of wildlife on the BBTCA airfield.

#### *Mitigation*

The lands affected by proposed lakefill operations do not support natural vegetation communities or wildlife habitats. Where impacts to existing manicured grass cover occurs, seeding of disturbed areas would occur, where required, to re-establish grass cover.

### Post-Construction Effects on Vegetation and Wildlife and Mitigation

Since the proposed lakefill project area is within the aquatic environment, there will be no operation or use of the lakefill area once constructed that could affect vegetation or wildlife.





The area does not support extensive aquatic vegetation or unique or specific habitats of wildlife.

#### Significance of Vegetation and Wildlife Effects

Given that the vegetation potentially impacted by the proposed lakefill project is of low quality (manicured grass) and is not designated for protection, vegetation effects are not expected to be significant. Given that the Project Location and construction areas are actively managed to deter wildlife and are well removed from any natural areas or wildlife habitat, it is not anticipated that there would be any significant effects on vegetation or wildlife.

### **5.1.8 Migratory Birds**

#### Construction Effects on Migratory Birds and Mitigation

##### *Effects*

The limited vegetation and habitat in the Project Location is not suitable habitat for migratory birds. There is potential for migratory birds to enter into the airport property during construction; however, this would be at a low frequency as migratory (and all) birds that represent a potential strike threat to aircraft and passenger safety are actively deterred from using the Airport property. In addition, wildlife habitat on the BBTCA airfield is actively managed to minimize wildlife presence.

#### Post-Construction Effects on Migratory Birds and Mitigation

Since the proposed lakefill area will be filled to below water level, there will be no operation or use of the lakefill area once constructed.

#### Significance of Migratory Birds Effects

The proposed Project is not anticipated to affect migratory birds as the area does not support migratory bird habitat. Further, the Airport's bird control program (for aircraft safety reasons) would reduce the likelihood of migratory birds entering the Project Location.



### **5.1.9 Fish and Fish Habitat**

#### **Construction Effects on Fish and Fish Habitat and Mitigation**

##### *Effects*

As discussed under “Water Quality” above, there is the potential for the increased suspension of sediment which may affect water quality in Lake Ontario as a result of the placement of fill during construction. Effects of excess sediment discharge on fish may include impairment to respiratory functions, increased physiological stress, decreased reproductive success, fatal impacts to small aquatic organisms that fish eat, and reduced vision (Waters 1995). Reduced light transmission caused by increased turbidity can also reduce aquatic plant growth, which can alter community dynamics.

Fish and fish habitat in the Western Channel have a small potential to be affected by erosion and runoff from nearshore construction activity in the area that material would be stockpiled. There is a small potential that spillage of soil materials from the stockpile area or barge into the Western Channel/Inner Harbour could affect fish and fish habitat (as the use of a small, temporary stockpile area may be used only in the event that the barge(s) cannot contain all the daily excavated material).

The proposed placement of lakefill in the Project Location is expected be of low risk to fish and fish habitat (DFO, personal communication, 2012). While the fill material will alter existing lakebed characteristics and available habitats, it is also expected to create conditions that will be habitable by fish and other aquatic organisms. While the exact gradation of the fill material is not yet confirmed, it is expected to include a mix of particle sizes as large as 25 cm in diameter that may provide cover for fish.

##### *Mitigation*

Potential impacts of the proposed lakefill Project on fish and fish habitat are primarily associated with fill placement in the MEZ and sediment transport, suspension and deposition into the Inner Harbour and the Western Channel during construction. Provincial guidelines outlined in the *Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario* (Ontario Ministry of the Environment, 2011) will be followed. These guidelines provide best practices for the evaluation of fill suitability based on a number of physical and chemical parameters. Specifically, the lakefill material will have to meet the test of an “unconfined lakefill facility”, which is defined as uncontaminated fill that may be placed directly into open



water. See **Section 3.1** of this report for further details material testing and criteria requirements.

A silt curtain will be installed surrounding the active lakefill site to address sediment suspension and transport during the placement of fill in the Project Location. The silt curtain would be constructed of a geotextile material that is vertically suspended in the water column to enclose the active lakefill area and contain sediment transport (see **Appendix B** for Ontario Provincial Standards)..The silt curtain would restrict potential suspended sediment effects to the lakefill area and limit sediment transport to more significant fish habitat situated at the Toronto Islands and Tommy Thompson Park Embayments.

As outlined in the Surface Water subsection, erosion and sediment control measures would be in place during construction to limit erosion and sediment transport to the Western Channel and Lake Ontario. The loading of fill material onto the barge for transport to the proposed lakefill area would be monitored by Project staff to minimize the potential for spillage of soil materials into the Western Channel and Lake Ontario.

Personnel from DFO have confirmed that fish habitat compensation is not required for this Project as it is deemed a low risk project (DFO, Personal Communication, 2012). DFO will prepare a Letter of Advice that outlines recommended mitigation measures for implementation during lakefill activities to prevent negative impacts to fish and fish habitat. These mitigation measures will be implemented during construction in consultation with DFO and Aquatic Habitat Toronto personnel once they are made available.

#### Post-construction Effects on Fish Habitat and Mitigation

Since the proposed lakefill area will be filled to below water level, the new lakefill area will continue to provide fish habitat. No effects of operations on fish or fish habitat are, therefore, anticipated.

#### Significance of Fish Habitat Effects

It is not anticipated that the proposed lakefill Project will result in adverse significant effects to fish and fish habitat. The potential for effects will be mitigated by the measures outlined above.



#### **5.1.10 Species at Risk**

The proposed Project is not expected to affect the Species at Risk identified by DFO and Conservation Ontario. Unique, specific or critical habitats used by these species are not known to exist in the Project Location and there are no known observations of these species in the proposed lakefill area.

#### **5.1.11 Provincially Significant Wetlands**

The proposed lakefill location is physically removed from the Provincially Significant Toronto Islands Coastal Wetland Complex (360 m at its closest point). This fact, combined with proposed mitigation measures to restrict the off-site transport of suspended sediment, results in the expectation that the proposed Project will not have an effect on any Provincially Significant Wetlands.

### ***5.2 Effects and Mitigation for the Socio-Economic Environment***

#### **5.2.1 Economic and Business Activity**

The construction of the Project is not expected to affect BBTCA businesses as the Project is well removed from these businesses and construction would occur at night when these businesses are closed. Other businesses to consider are the marinas and tour boat operations. Some late night noise from the construction may be heard from the mainland and Island marinas. Efforts will be made to minimize these noise effects as much as possible. As the noise will be for very short periods of time business related effects to these marinas is not expected. In regards to the tour boat operations, the Project is within the MEZ, as such tour boat operations will not be affected.

No specific mitigation measures are warranted. No adverse significant economic or business effects are anticipated.

#### **5.2.2 Aboriginal Use of Traditional Lands/Resources**

The Project area is not known to be used by any First Nations for traditional uses, and as such no adverse effects would be expected. Notifications of the Project were sent to the Mississaugas of the New Credit First Nation and the Mississaugas of Scugog Island First Nation. To date, no concerns regarding the Project have been issued to the TPA.



### **5.2.3 Heritage and Archaeological**

The area that would be disturbed by construction activities for the Project is not considered to have a potential for the discovery of archaeological resources as the area to be disturbed is previous fill lands (eastern end of the BBTCA) are lakebed areas adjacent to fill lands. As such, effects on archaeological resources are not expected. In the unlikely event that archaeological features are discovered during construction, standard procedures should be followed to protect cultural resources including notifications to the Ontario MTCS.

No heritage features are in proximity to the project location.

No specific mitigation measures are warranted. No adverse significant archaeological or heritage effects are anticipated.

### **5.2.4 Land Use**

Construction of the proposed Project would not have effects on the use of land, including development activity, as the lands are currently being used for airport purposes, and would continue to be used for the same purpose. Storage of machinery for construction may utilize minimal paved area (potentially a few parking spaces taken up) at the BBTCA. This would be temporary and not result in a significant effect. No specific mitigation measures are warranted. No adverse significant land use effects are anticipated.

### **5.2.5 Social**

There would be no removal of social features (e.g. recreation space) as a result of construction of the Project as the Project is located within the MEZ which prohibits boat traffic. Visual effects of the Project will be limited as construction is proposed to occur at night and the final facility will be located below the water line. No specific mitigation measures are warranted. No adverse significant social effects are anticipated.

### **5.2.6 Transportation and Navigation**

#### **Air Navigation**

Although the facility will be located underwater and its purpose is to further improve the safe operation of the airport, NavCanada has requested the completion of a land use form and has expressed interest in how the Project is to be constructed. Specific interests include the location and height of the potential stockpile area and the timing of project construction. The



potential stockpile is to be located, if required, at the north-eastern end of the BBTCA against the water. Its height will not exceed BBTCA height restrictions (3 meters). The lakefill will be constructed when the BBTCA is not operating (i.e. between 11 PM and 6:45 AM). As such, project construction would not in any way interfere with airport operations. Final comments from NavCanada are pending.

#### Water Navigation

The Project is to be located in the BBTCA Marine Exclusion Zone (MEZ) which prohibits boats traffic of any type. The TPA is in consultation with the Navigable Water Protection Branch of Transport Canada regarding the Project and the need for NWPA approval.

#### **5.2.7 Human Health**

Construction activities of the Project have the potential to affect human health, as a result of air emissions and noise. During the construction of the proposed Project, there would be an increase in airborne particulates (dust) and emissions from diesel engines. These effects would be typical of a construction site, and would be localized and temporary. While some noise disturbance effects are possible, the levels would not be significant enough to result in human health effects.

As outlined in the Air Quality section, standard mitigation measures to minimize dust and emissions should be applied. It is expected that such mitigation measures would be effective, and in any event, the effects would be temporary.

The Project would have no human health effects once it is constructed.

### **5.3 Accidents and Malfunctions**

#### During Construction

There is limited potential for environmental effects as a result of accidents or malfunctions during construction. There is some potential for spills of construction equipment fuels, oils and hydraulic fluids. These spills could result in soil, groundwater and surface water contamination. If a spill occurs, it would be of minimal magnitude (as low volumes of these materials are typically handled) and spill contingency plans of the contractor would be followed. It is reasonably assumed that these clean-up practices would be effective in managing these events





and as a result, these types of accidents are not expected to result in significant effects on the environment.

For the construction and use of the facilities, only authorized personnel at the BBTCA will have access to the construction area. The contractors of the construction work would be required to produce a health and safety policy for completing the construction. This would be done in compliance with BBTCA health and safety policies for construction activity at the airport. There are no anticipated risks associated with accidents and malfunctions related to the Project construction activities.

#### During Operation

For operations, the lakefill would only be accessed by authorized personnel who are trained in working in and around the lakefill and who would not likely have any material risk associated with accidents and malfunctions related to the lakefill operation. This would be enforced by the BBTCA.

Accidents and malfunctions could also occur as a result of changes in the environment, such as extreme weather events or natural disasters. The potential effects of changes in the environment on the Project are discussed in section 5.4.

### **5.4 Effects of the Environment on the Project**

This environmental screening also considers “any change to the Project that may be caused by the environment”. Through the potential for climate change there is a potential for a change in lake levels. The crest height of the facility has been designed to be 0.5 meter to 1.0 metre below the chart datum lake level (which is generally the lowest lake level). Should over time lake levels be found to be lower than these levels (which is unlikely as Lake Ontario are levels are controlled through the St Lawrence Sea Way) and the facility becomes exposed, then options to address this would be explored if exposure of the facility is deemed to be a problem. Other natural events such as earthquakes would not be of concern to this facility. As the facility is within a protected harbour, large waves resulting from storms are unlikely.

### **5.5 Cumulative Effects**

The potential for effects from the Project to combine with the effects of other likely projects and activities in the Project Area was considered in this EA screening. For cumulative effects to occur there must be an overlap of effects in both time and space. As previously described,



while the Project is expected to result in some short term construction effects, no material longer term operations related effects are anticipated. As such, the focus of the cumulative effects assessment was on the short term construction period. The only identified project that might result in cumulative effects would be the TPA Pedestrian/Services Tunnel Project (referred to as the Ped Tunnel Project). The Ped Tunnel Project began construction in Spring 2012 and the construction period is expected to last for about 22 months. In reviewing the construction activities the potential for overlap is minimal. As TPA is the proponent of both projects, the TPA would be responsible to ensure the management and execution of construction and operation of the projects do not conflict or result in negative cumulative effects.

There are no other projects in the vicinity of the lakefill Project that the TPA is aware of that could result in cumulative effects with the lakefill Project.

## **5.6 Other Matters**

No other matters of relevance to the screening were identified.

## **5.7 Environmental Effects Summary Checklist**

**Table 5** provides a summary checklist of potential adverse environmental effects of the Project, whether any identified effects can be mitigated and identifies any potential residual (lasting) effects that would continue after all mitigation plans are applied. This takes into consideration all project phases.



**Table 5 – Environmental Effects Checklist**

<i>Environmental Component</i>	Potential Project Effects				Residual Effects	
	Potential Adverse Effect?		Can It Be Mitigated?		Is it Significant?	
	Yes	No	Yes	No	Yes	No
Noise	✓		✓			✓
Air Quality	✓		✓			✓
Groundwater		✓				
Water Quality	✓		✓			✓
Soils and Sediments	✓		✓			✓
Terrain and Topography		✓				
Vegetation and Wildlife		✓				
Migratory Birds		✓				
Fish and Fish Habitat	✓		✓			✓
Species at Risk		✓				
Provincial Significant Wetland		✓				
Economics		✓				
Aboriginal Use of Traditional Lands/Resources		✓				
Heritage and Archaeology		✓				
Land Use		✓				
Social		✓				
Transportation and Navigation		✓				
Human Health	✓		✓			✓
Accidents and Malfunctions	✓		✓			✓
Effects of Environment on the Project	✓		✓			✓



## 6 CONSULTATION

The Canada Port Authority EA Regulations include requirements for public consultation where the Port Authority is aware of any special circumstances of the Project that would make the Project of interest to the public. In such a case, the TPA would be required to give the public notice of the screening, an opportunity to participate in the screening and to examine and comment on the screening report and on any record filed in the public registry established with respect to the Project.

In addition to the agency consultations that have occurred, the TPA has chosen to consult with the public for this proposed Project which has included the issuing of project notices, the holding of a public meeting and providing the public with the opportunity to examine and comment on this draft screening. Specifically consultation for this Project included/is including:

- Project notice (Notice of Commencement) on the Canadian Environmental Assessment Agency public registry (as of May 16, 2012);
- Notification letters dated May 24, 2012 to the Mississaugas of the New Credit First Nation and the Mississaugas of Scugog Island First Nation, which provided information about the proposed Project. Follow-up email and phone calls were placed to discuss the proposed Project. A conference call was held with the Community Consultation Specialist of the Mississaugas of Scugog Island First Nation on June 22, 2012 to discuss the Project;
- Project Notice of Commencement and Project Description Report sent to government agencies on May 24, 2012; Subsequent communications occurred with: the Canadian Environmental Assessment Agency, NAV Canada, Transport Canada, Navigable Waters Protection Agency, the Department of Fisheries and Oceans; Environment Canada; Aquatic Habitat Toronto; Toronto and Region Conservation Authority; and, Waterfront Toronto;
- Notice of Public Meeting and Project Description Report sent to City staff and Councillors on June 1, 2012;
- Notice of Public Meeting and Project Description Report emailed to stakeholders and the TPA contact list for the public on June 4, 2012;
- Notice of Public Meeting emailed to agencies and First Nations on June 4, 2012;



- Public Meeting held on June 14, 2012 to discuss and answer questions about the proposed Project;
- Subsequent communications with interested persons (e.g., stakeholders, residents groups) regarding the Project, which included providing information and obtaining comments;
- The Project was discussed during the June 25, 2012 meeting with the Construction Period Liaison Committee for the Pedestrian Tunnel Project;
- The project was discussed during a meeting with Waterfront Toronto on July 3, 2012;
- The Project was discussed during the July 5, 2012 meeting with Aquatic Habitat Toronto;
- A meeting was held with a local City Councillor to discuss the Project on July 6, 2012;
- Documents available on the TPA's website for review and comment, including Project Description, Notice of Public Meeting; and this Draft Environmental Screening Report including the public meeting records;
- Draft Environmental Screening Report available for public review and comment on the TPA's website and emailed to the Project contact list (week of July 9, 2012);
- A meeting was held with Aquatic Habitat Toronto to discuss the Project on July 5, 2012; and,
- Responding to enquiries from the public, agencies and other interested persons.

The Project Notice, information regarding the June 14, 2012 public meeting and the Project Description were distributed to the government agencies described below and the Project Description was made available for review and consideration to First Nations, non-government organizations, local residents, businesses, schools, boating clubs and community facilities, and the general public. Similarly, this draft Screening report is being made available to the project stakeholders list. Government departments and agencies that the Draft Environmental Screening Report and project information is being provided to include:

- Canadian Environmental Assessment Agency
- Environment Canada
- Department of Fisheries and Oceans Canada
- Transport Canada
- Navigable Waters Protection Agency
- NAV Canada



- Indian and Northern Affairs Canada
- City of Toronto (Deputy City Manager, Chief Administrative Officer, local councillors, Waterfront Secretariat, Community Planning)
- Toronto and Region Conservation Authority
- Waterfront Toronto
- Aquatic Habitat Toronto

The public and stakeholders were encouraged to attend the June 14, 2012 public meeting and email comments or questions to [ea-comments@torontoport.com](mailto:ea-comments@torontoport.com). There were approximately 45 attendees at the public meeting. Comments and questions received during the screening included four comment forms filled out at the public meeting on June 14; six emails with comments and questions from the public; one letter from the York Quay Neighbourhood Association; one letter from the Bathurst Quay Neighbourhood Association; and two emails with questions from Toronto Waterfront Secretariat. The comments received are included in **Appendix C – Record of Consultation**. Responses to the specific questions received are being generated and will be sent to those who provided the questions.

Comments and questions received that were related to the screening were in regards to:

- Size and location of the lakefill;
- Need and benefits of the Project;
- Potential impacts on water flow;
- Potential impacts on wildlife, aquatic habitat and Provincial Wetland;
- Need to extend the “keep out” area;
- Nature and quality of the fill;
- Visual impact of the lakefill;
- Land ownership and required permits;
- Construction activities and schedule; and,
- Environmental Assessment process and consultation activities.

A number of questions and comments were raised related to topics outside the scope of the Project and the screening, these included:





- TPA plans to extend the runway;
- Cost of the Environmental Assessment;
- TPA's relationship with the communities; and,
- Update from previous TPA's projects.

## 7 CONCLUSION

The **Proposed Lakefill Project** has been assessed for potential environmental effects should the Project proceed. The Project is being proposed:

- To improve the safe use and operation of the BBTCA;
- To take advantage of the excess rock material being generated from the nearby Pedestrian Tunnel Project; and,
- To minimize pedestrian tunnel construction trucking related effects to the local community.

The potential for construction and operation effects of this proposed Project have been assessed. Key issues examined have included the potential for effects on fish and fish habitat and the potential for construction related nuisance effects on the local community and users of public open space and recreation amenities (e.g. local marinas). Some temporary construction related effects are likely. With the implementation of the identified mitigation and effects management measures, it is the conclusion of this screening that the Project can be developed without adverse significant effects on the environment. In addition, the Project will reduce the volume of truck traffic required to handle the excavated material from the pedestrian tunnel construction.

The TPA would commit to the mitigation recommendations in this report should the Project proceed. The TPA would also keep local community members and stakeholders informed during the construction period and would be willing to meet with local stakeholders, such as the Bathurst Quay Neighbourhood Association and the York Quay Neighbourhood Association, and the Toronto Island Community to hear their concerns and suggestions in regards to the Project should it proceed. It is expected that the Project can be monitored through the Pedestrian Tunnel Project construction monitoring committee that has been established by the TPA.



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## **APPENDIX A**

### **BILLY BISHOP TORONTO CITY AIRPORT LAKEFILL EA SCREENING- SHORELINE AND COASTAL ENVIRONMENT**



# Baird

oceans

*engineering*

lakes

*design*

rivers

*science*

watersheds

*construction*

## **Billy Bishop Toronto City Airport Lakefill EA Screening Shoreline and Coastal Environment**

**June 2012  
11950.101**



# Billy Bishop Toronto City Airport Lakefill EA Screening Shoreline and Coastal Environment

*Prepared for  
Dillon Consulting Limited*

*Prepared by*

# Baird

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11950.101

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## 1.0 INTRODUCTION

### 1.1 Scope of Work

The project is referred to as *Billy Bishop Toronto City Airport (BBTCA) Proposed Lakefill Operation within Marine Exclusion Zone – Toronto Harbour*. The Toronto Port Authority (TPA) is proposing to lakefill an area with a maximum size of approximately 8,000 m<sup>2</sup> (top crest area) within the Marine Exclusion Zone (MEZ) in the Harbour just east of BBTCA. While not a requirement of the project, the project may take advantage of fill material, excavated from the BBTCA Pedestrian Tunnel Project.

Dillon Consulting Limited was retained by the TPA to undertake a screening under the Canada Port Authority Environmental Assessment Regulations (CPA EA Regs). W.F. Baird & Associates Coastal Engineers Ltd. (Baird) was retained by Dillon to complete the assessment of coastal conditions, effects and mitigation including:

- Document the existing shoreline and coastal environment including: bathymetry; site visit and visual reconnaissance of study shoreline; marine structures based on available records; lake levels, wave climate, currents, ice conditions, nearshore sediments, general bedrock elevations; and regional shoreline characteristics.
- Conduct a screening level assessment of the shoreline based on site observations, available aerial imagery, bathymetry and geotechnical data. The objectives of this analysis are to provide an understanding of sediment processes at the project location and potential impacts of the proposed works on the coastal environment.

### 1.2 Project Description

The project site is located within the Marine Exclusion Zone (MEZ) in Toronto Harbour, east of BBTCA as shown in Figure 1.1. The crest area of the lakefilling is approximately 8,000 m<sup>2</sup>. It has been assumed, for the purposes of the screening, that the fill will be placed with side slopes of 1:1.3 (vertical:horizontal), which is the estimated angle of repose of the material. Also for the purposes of the assessment, the crest elevation of the fill is assumed to be about 1 m below Chart Datum; water levels are discussed in Section 2.2. Details of the lakefilling are shown in Figure 1.2. The total area of the harbour bed that would be occupied would be a maximum of approximately 9,200 m<sup>2</sup>.

The fill may be sourced from the material excavated during construction of the pedestrian tunnel that is to extend from the foot of Bathurst Street to the BBTCA. Based on information available, this material will consist of 25 cm minus, shale and limestone fragments.

The stockpiled material may be barged to the project site, or it may be stockpiled on BBTCA lands and then moved to the site for placement from shore (i.e., from the east end of BBTCA). If placed

by barge, the barge would anchor at the edge of the disposal area to facilitate unloading. A sediment control barrier will completely encompass the area to receive fill and will extend from the water surface to the lakebed. Materials would be dumped from the barge to ensure proper distribution along the lakebed and establish a working perimeter. Subsequent barges would fill in the perimeter. If the material was placed from land, it would be end-dumped from the shore.



**Figure 1.1 Map Showing Project Location**



Figure 1.2 Map Showing Proposed Lakefilling

## 2.0 COASTAL ENVIRONMENT

### 2.1 Bathymetry

Depths in Toronto Harbour vary from 12 m in the deepest areas, offshore of the project site, to less than 1 m along the shores of the Toronto Islands. All depths are referenced to Chart Datum (CD), which is 74.2 m International Great Lakes Datum (IGLD) 1985.

A hydrographic survey of the project site was completed by the Toronto Port Authority on November 15, 2011. The bathymetric contours are plotted on an air photo in Figure 2.1 and are shown overlaid on Canadian Hydrographic Service (CHS) Chart No. 2085 in Figure 2.2. Depths at the toe of the steel sheet pile (SSP) wall, located at the end of the runway are about 1.5 m below CD. The bathymetry drops off at a slope of approximately 1 vertical to 10 horizontal (1V:10H) to a distance of 70 m from shore, beyond which the slope flattens. Depths are about -10 m CD, approximately 300 m from shore.

### 2.2 Water Levels

Water levels on Lake Ontario vary annually and seasonally in response to general climatic conditions and hourly in response to storm events. Canadian Hydrographic Service monthly (Jan 1918 to Dec 2002) and hourly (Toronto Gauge, Jan 1962 to Dec 2001) digital water level data were used in the analysis provided herein. All water levels are referenced to International Great Lakes Datum (IGLD) 1985. Chart Datum (CD) for Lake Ontario is 74.2 m IGLD 1985 and is considered the elevation that the water level will seldom fall below.

Figure 2.3 shows the monthly variation in water levels during the period of record for the hourly digital water level data (1962-2001), while Figure 2.4 provides the frequency of occurrence and frequency of exceedence for hourly water levels over the same period. It may be noted in Figure 2.3 that water levels in 1973 persisted at a relatively high level over a period of almost three months.

Table 2.1 summarizes the maximum and minimum water levels over the period of record of the hourly data (1962-2001).

**Table 2.1 Maximum and Minimum Hourly Water Levels at Toronto (1962-2001)**

Water Level	Water Level (IGLD 1985)	Date
Maximum Hourly	75.81 m	May 28, 1973
Minimum Hourly	73.62 m	Feb. 4, 1965
Range	2.19 m	-





Figure 2.1 Hydrographic Survey Data at Project Site from TPA (November 15, 2011)

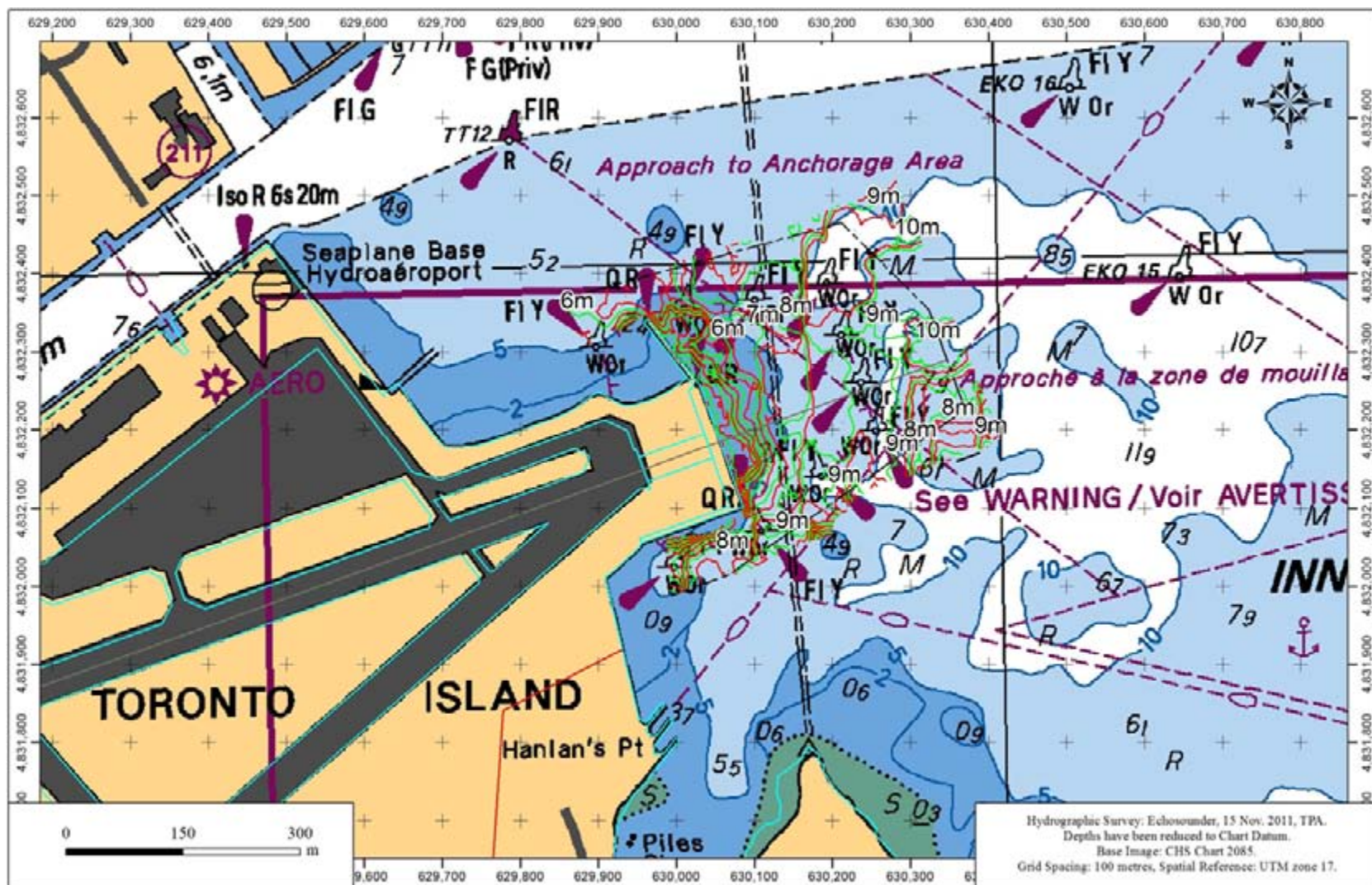


Figure 2.2 Hydrographic Survey Data at Project Site from TPA (November 15, 2011) Overlaid on CHS Chart 2085



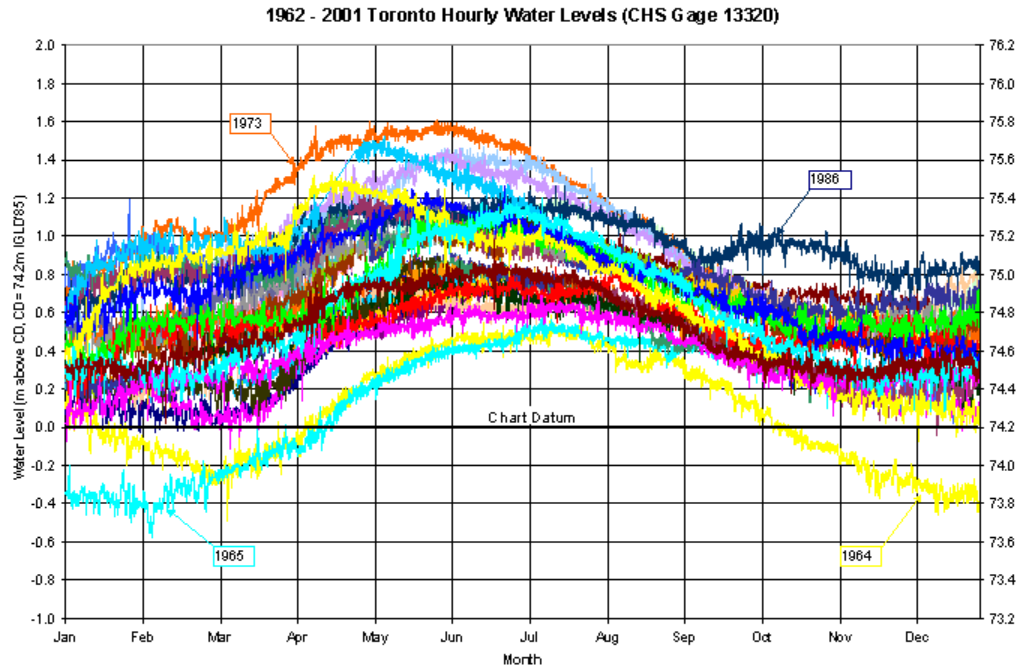


Figure 2.3 Hourly Water Level Time Series by Month

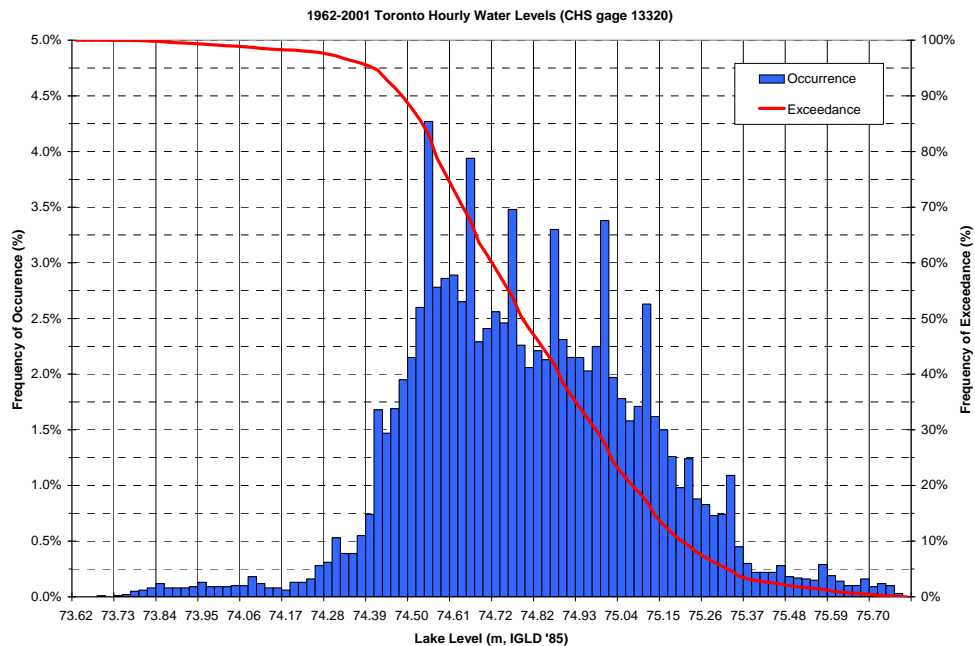


Figure 2.4 Exceedance Statistics for Hourly Water Levels (all months)

The hourly water level data were analyzed in order to estimate extreme high water levels as a function of return period. As a starting point, storm surge events were separated out from the hourly water level records and the peak surge events occurring over the period from 1962 to 2001 identified. Similarly, the annual maximum average monthly water level was determined from the data. A combined probability analysis was then performed in order to estimate the maximum monthly mean, surge and combined water level (surge + monthly) as a function of return period. The results are shown in Table 2.2 for the full year and boating season (May 1 to Oct. 31).

**Table 2.2 High Water Levels as a Function of Return Period (m IGLD 1985)**

Period	Water Level	Return Period (years)				
		5	10	25	50	100
Full Year	Static	75.34	75.47	75.62	75.73	75.84
	Surge	0.20	0.22	0.24	0.25	0.26
	Combined	75.51	75.64	75.78	75.89	75.99
Boating Season	Static	75.34	75.46	75.59	75.68	75.76
	Surge	0.15	0.17	0.19	0.20	0.21
	Combined	75.47	75.58	75.71	75.80	75.87

A similar analysis was undertaken to estimate extreme low water levels as a function of return period. The results are shown in Table 2.3 for the full year and boating season (May 1 to Oct. 31).

**Table 2.3 Low Water Levels as a Function of Return Period (m IGLD 1985)**

Period	Water Level	Return Period (years)				
		5	10	25	50	100
Full Year	Static	74.34	74.24	74.09	73.97	73.85
	Surge	-0.23	-0.26	-0.30	-0.33	-0.36
	Combined	74.14	74.03	73.91	73.81	73.71
Boating Season	Static	74.52	74.47	74.41	74.38	74.35
	Surge	-0.16	-0.18	-0.21	-0.22	-0.25
	Combined	74.38	74.32	74.26	74.23	74.19

## 2.3 Wind

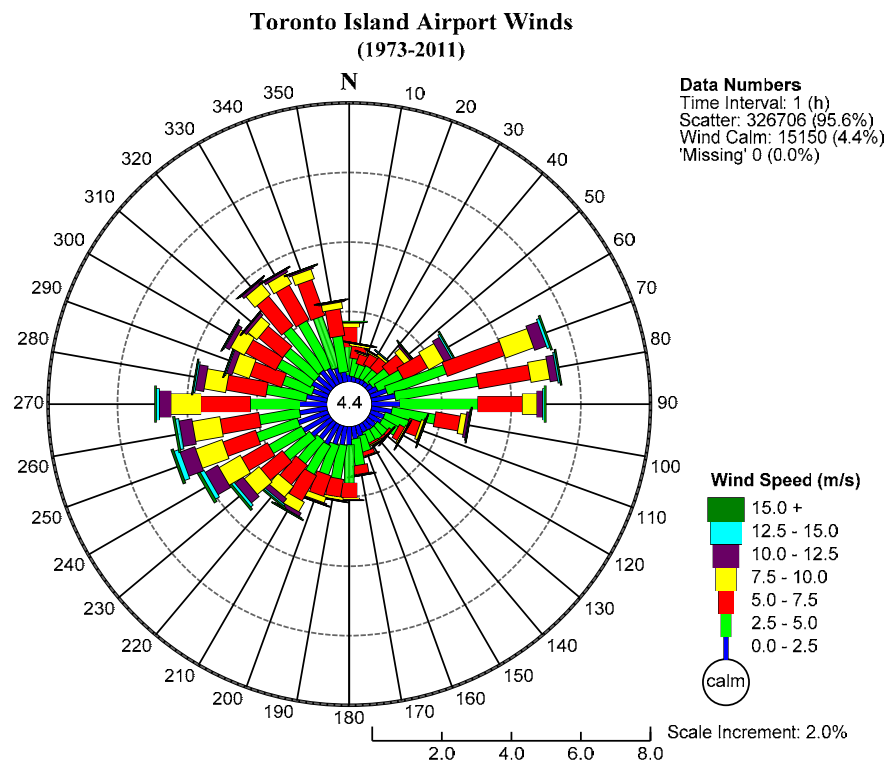
Wind data from the Toronto Island Airport anemometer was downloaded from the National Climate Data and Information Archive. Details regarding anemometer location, elevation, ID code and data range are summarized in Table 2.4. The Toronto Island Airport anemometer was moved in early 2010 (approx. 150 m) but is still being presented as the same dataset (i.e. same WMO ID).

Quality control was performed by comparing the two datasets (pre and post-shift) since there is a 3-month overlap.

**Table 2.4 Summary of Wind Station Metadata**

Anemometer	WMO ID	Data Range	Latitude	Longitude	Elevation (masl)
Toronto Island	71265	1957 - 2012	43.6286 N	79.3950 W	76.5

Although the wind data record spans from 1957 to present day, data prior to 1973 were not used, since measurements were not taken at night. A wind rose diagram for Toronto Island (1973 to 2012) is shown in Figure 2.5. Following standard convention, directions shown are “direction from”. Wind speeds shown are hourly data; gusts will be greater. The wind rose shows directional wind speeds for the entire year.



**Figure 2.5 Wind Rose for Toronto Island Airport**

A peaks over threshold (POT) analysis was performed on the Toronto Island Airport wind data to determine extreme events in the dataset. An extreme value analysis (EVA) was then completed on the POT data. Wind speeds for varying return period are listed in Table 2.5. The upper and lower confidence limits are based upon the 95% confidence interval. Considering the length of the data set used in the analysis (39 years), the predicted 50 and 100 year return period wind speeds should be used with caution.

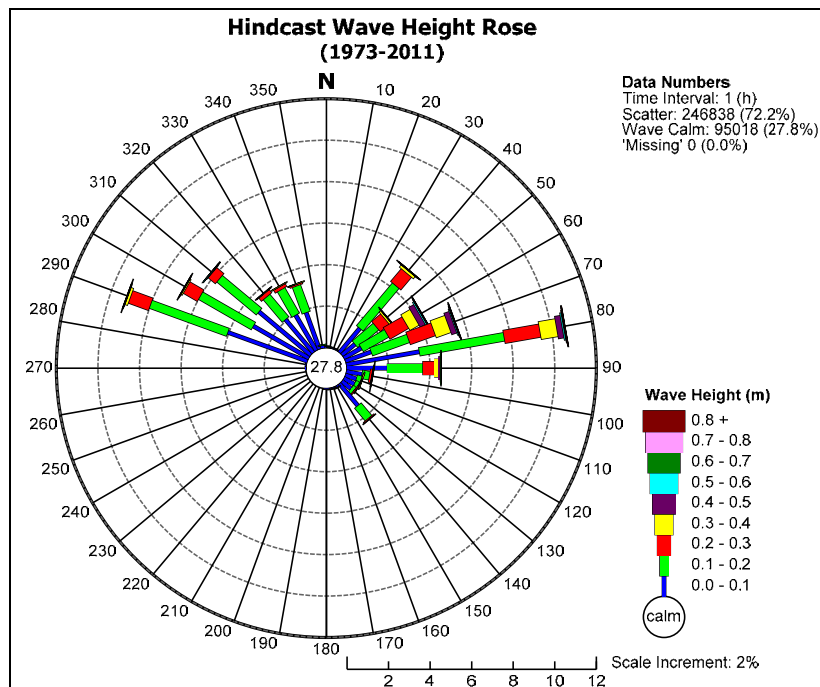
**Table 2.5 Return Periods and Confidence Limits for Toronto Island Airport Winds**

Return Period (years)	Wind Speed (m/s)	Upper Confidence Limit (m/s)	Lower Confidence Limit (m/s)
1	18.9	19.3	18.6
5	20.7	21.8	19.7
10	21.8	23.4	20.2
25	23.4	25.9	20.9
50	24.7	27.9	21.5
100	26.1	30.1	22.2

## 2.4 Wave Climate

### 2.4.1 Wind Waves

A one-dimensional parametric hindcast was completed to understand the wave climate at the study site. Wind input was defined using the Toronto Island Airport wind data, presented in Section 2.3. Winds from the southwest quadrant were not included due to the presence of the Islands. The wind data were not corrected for overwater effects given the proximity of the anemometer to the open lake, and it was assumed to be at a 10 m elevation. Individual fetches were measured and the depths were defined from CHS Chart 2085. The hindcast wave climate is summarized in Figure 2.6.

**Figure 2.6 Wave Rose from 1D Hindcast**

A scatter table with the distribution of wave period with respect to wave height is presented in Table 2.6. The wave period is less than 2.5 s for 97% of the record and wave heights are less than 0.4 m for 98% of the hourly record (including calms). Table 2.7 provides a wave height frequency distribution by wave direction. The maximum wave height is 0.9 m propagating from the east (90°) while the most frequent wave directions are from the northwest (292.5 - 315°) and northeast-east (45 - 90°).

**Table 2.6 Wave Period Frequency Distribution by Wave Height for 1D Hindcast**

Wave Height	Wave Period Frequency Distribution (%)								Total	Cumulative
	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5+		
0.0-0.1	0.45	9.77	19.56	1.02					30.81	58.59
0.1-0.2			2.77	22.93	2.78				28.48	87.07
0.2-0.3				0.98	7.47	0.46			8.90	95.97
0.3-0.4					1.54	1.20	0.03		2.77	98.74
0.4-0.5						0.91	0.04	0.00	0.94	99.68
0.5-0.6						0.11	0.09	0.00	0.21	99.89
0.6-0.7							0.08	0.00	0.08	99.97
0.7-0.8							0.01	0.00	0.02	99.99
0.8+							0.00	0.01	0.01	100.00
<b>Total</b>	0.45	9.77	22.34	24.93	11.79	2.67	0.26	0.01		
<b>Cumulative</b>	28.23	38.00	60.34	85.26	97.06	99.73	99.99	100.00		

27.8% Calm Conditions (Wave Height = 0 m)

Frequency rounded to two decimal places (i.e. 0.001 shown as 0.00)

**Table 2.7 Wave Height Frequency Distribution by Wave Direction for 1D Hindcast**

Direction	Wave Height Frequency Distribution (%)										Total	Cumulative	Maximum Wave Height
	0.0-0.1	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5	0.5-0.6	0.6-0.7	0.7-0.8	0.8+				
0.0	0.15	0.01									0.15	27.94	0.14
22.5	0.06	0.00									0.06	28.00	0.10
45.0	2.70	4.67	1.70	0.37	0.08	0.02	0.00	0.00			9.54	37.54	0.75
67.5	3.62	4.83	2.95	1.59	0.63	0.14	0.05	0.01	0.00		13.82	51.37	0.88
90.0	4.52	4.02	1.48	0.56	0.20	0.05	0.02	0.00	0.01		10.86	62.23	0.89
112.5	1.18	0.42	0.04	0.00							1.65	63.88	0.39
135.0	2.00	0.97	0.05	0.00							3.03	66.91	0.39
157.5	0.09	0.00									0.09	67.00	0.17
180.0	0.04	0.00									0.05	67.05	0.12
202.5											0.00	67.05	0.00
225.0											0.00	67.05	0.00
247.5											0.00	67.05	0.00
270.0	0.01										0.01	67.06	0.02
292.5	7.16	6.87	1.81	0.19	0.02	0.00	0.00	0.00			16.06	83.12	0.73
315.0	7.16	5.29	0.80	0.05	0.00	0.00					13.30	96.42	0.58
337.5	2.11	1.39	0.07	0.00							3.58	100.00	0.38
<b>Total</b>	30.80	28.48	8.90	2.77	0.94	0.21	0.08	0.02	0.01				
<b>Cumulative</b>	58.59	87.07	95.97	98.74	99.68	99.89	99.97	99.99	100.00				

27.8% Calm Conditions (Wave Height = 0 m)

Frequency rounded to two decimal places (i.e. 0.001 shown as 0.00)

An extreme value analysis (EVA) was completed on the hindcast data. Wave heights and periods for varying return period are listed in Table 2.8. Extreme period values were extrapolated based on a direct comparison between  $H_{m0}$  and  $T_p$  from the hindcast results. The upper and lower confidence limits are based upon the 95% confidence interval. Based on the length of the data set used in the analysis (39 years), the predicted 50 and 100 year return period waves should be used with caution.

**Table 2.8 Return Periods and Confidence Limits for Waves at Project Site**

Return Period (years)	$H_{m0}$ (m)	$T_p$ (s)	Upper Confidence Limit	Lower Confidence Limit
5	0.83	3.53	0.86	0.81
10	0.86	3.59	0.89	0.84
25	0.89	3.64	0.93	0.86
50	0.91	3.68	0.95	0.88
100	0.93	3.72	0.97	0.89

It is noted that the wave hindcast did not include waves from Lake Ontario, diffracted through the Western Gap. Considering the location of the project site with respect to the Western Gap and the length of the Western Gap channel, it is unlikely that the waves from Lake Ontario would be of any significance at the site.

#### **2.4.2 Boat Wake and Ship Generated Waves**

Ship generated waves in the harbour were evaluated by Baird for a previous project. Vessels are limited to a speed of 5.4 knots in the Inner Toronto Harbour. The fireboat however is authorized to exceed this speed limit when responding to emergencies and thus potentially generates one of the largest wakes in the harbour.

The fireboat is a 26 m long, all weather, 1500 horsepower, twin-screw tug. The vessel has an 8-knot hull design and is used as an icebreaker when the harbour freezes in winter months. Data collected by Baird showed that when the fireboat was travelling less than 6 knots the wake was minimal (wave height less than 0.3 m). During an emergency, when speed is a priority, the fireboat may attain speeds greater than 6 knots and wakes become more significant, however maximum waves generated were less than the maximum wind generated waves, and wind waves would therefore govern design.

### **2.5 Currents**

Wind generated surface currents may be estimated as about 3 percent of the wind speed (e.g., British Standards, 1984). For a typical wind speed of 7 m/s as shown in Figure 2.5, surface currents would be in the range of 0.2 m/s. During the 1-year return period wind speed of 18.9 m/s (as listed in see Table 2.6) surface currents are estimated to be 0.6 m/s.

## 2.6 Ice

Ice is a significant design factor for any marine construction project in this geographical region. Ice may impact coastal structures due to forces resulting from thermal expansion, horizontal forces due to ice floes, and ice scour. The latter may be a consideration at this site.

Limited ice data are available for the Inner Harbour, from Environment Canada's Ice Service. Previous work undertaken by Baird suggests ice thicknesses in the range of 55 cm and 65 cm for 30 year and 100 year return periods, respectively.

During winter months, the ice sheet has historically been broken up by the Toronto Fire Department's Fire Rescue Boat, the William Lyon Mackenzie on a daily basis, as needed, to provide safe ferry access to the Toronto Island. This breaking up of the ice sheet helps to reduce the loads applied on any marine structures in the area. It has been assumed that the service will continue to operate as it has in the past.

If construction occurs in the winter, ice may cause downtime and minor inconveniences.



### 3.0 SHORELINE DESCRIPTION AND COASTAL PROCESSES

This section provides a description of the shoreline in the immediate vicinity of the project site and coastal processes in the harbour.

#### 3.1 Shoreline Description

A visual reconnaissance of the site was undertaken by Baird on May 9, 2012. The water level at the time of the visit was approximately 0.78 m above CD. The shoreline condition description is based on the visual reconnaissance only. Geotechnical studies, surveying, or other detailed investigations were not conducted.

The length of shoreline observed by Baird is illustrated in Figure 3.1. The shoreline has been stabilized with shore protection measures including; stone revetment (approximately 490 m in length) and steel sheet pile (approximately 615 m in length). For discussion purposes, the shoreline has been divided into reaches, based on the location and type of shore protection (delineations are shown in Figure 3.1).

##### Steel Sheet Pile (SSP) Face A

The steel sheet pile (SSP) shoreline protection through this area is installed with a mildly sloping vegetated backshore from to the edge of the steel sheet piles. This area extends from the southern revetment on TPA lands across to the City of Toronto's Hanlan's Point ferry docks. The crest is low relative to other structures installed within the inner harbour. There are no apparent signs of recent shoreline change in the vicinity of this feature.

##### Southern Revetment

The southern revetment extends from SSP Face A to SSP Face B (see Figure 3.1 for location). The structure consists of dumped armour stone and rip rap on a slope of approximately 1:1.5 (v:h). It is not known how long the structure has been in place. Flotsam and other debris have accumulated amongst the revetment armour. The revetment appears to be functional and there are no visible signs of shoreline change in the vicinity of the southern revetment.



Figure 3.1 Existing Shoreline Conditions

Steel Sheet Pile (SSP) Face B

This steel sheet pile protection extends from SSP Face C to the southern revetment. The structure consists of a steel sheet pile wall with a concrete deck and grassed backshore. There is some localized deterioration in the concrete decking, particularly near joints, against the steel sheet pile. The crest elevation in this reach is higher than in SSP Face A or C. There is a short length of the steel sheet pile that visually appears to be out-of-plumb (top of wall leaning lakeward slightly).

Steel Sheet Pile (SSP) Face C

This steel sheet pile protection extends from SSP Face B to the eastern pier. The shore protection structure consists of a steel sheet pile wall with sloping concrete deck in the central portion and a flat concrete deck in the northern and southern portions. The sloping concrete deck slopes down towards the lake, and occurs over the width of the eastern end of Runway 1 (08/26). The crest height in this lower area is approximately 1.0 m above chart datum. During higher lake levels the SSP wall will be overtopped and wave action will act on the sloped concrete surface. There is some evidence of localized concrete deterioration near the concrete joints where the joints meet the steel sheet piles. Visually, the shore protection in this area appears to be in reasonable condition.

Eastern Pier

A steel sheet pile pier with concrete deck extends from the northeast limit of SSP Face C, at a slight angle to the northwest, as shown in Figure 3.1. The structure consists of a parallel row of steel sheet piles connected together with tie rods and capped with a concrete deck. Mooring hardware such as bollards and a timber rub-rail have also been installed on the pier. The timber rub rail has deteriorated with rot. There is also some localized deterioration on the concrete surface, however overall the pier appears visually to be in reasonable condition.

Northern Revetment

The north revetment extends from the eastern pier at the east end to the TPA float plane docks on the west end. The revetment consists of dumped stone, ranging from small armour stone down to smaller rip rap. It is on a very mild slope, estimated visually to be approximately 1:4 (v:h). The revetment is overgrown with light brush; however it appears as though tree grubbing activities have been maintained. No evidence of filter cloth was observed. There was no observed evidence of shoreline change as a result of wave action. Material beyond the structure toe appeared to consist of small quantities of sand, but physical sampling was not conducted. At the eastern limit of this reach, a small volume of sand has accumulated in front of the revetment against the pier, in the relatively well sheltered area. Given the assumed age of the structures, this volume of sediment accumulation is not indicative of significant active shoreline change.

### Summary of Shoreline Conditions

The shoreline in the project area is currently protected by armourstone and rip rap revetments and steel sheet piling. The existing shore protection has “hardened” the shoreline and prevents natural shoreline responses to wave action. Based on visual reconnaissance, overall the shoreline protection appears to be in reasonable condition and appears to have prevented shoreline change since its installation.

## 3.2 Other Structures

An intake tunnel (2.5 m diameter), located 28.3 m to 23.2 m below IGLD 1985 and extending from Maple Leaf Quay to Hanlan’s Point, is shown on Toronto Harbour Commissioners (1986). The tunnel runs under the project site. The City of Toronto Works Department should be advised of the proposed work and should provide review comment.

## 3.3 Littoral Processes

As described in Section 1, the project site is located in Toronto Harbour, on the northwest shore of the Toronto Islands. The Toronto Islands were formed in the late-glacial and post glacial periods by sediment supplied to Lake Ontario by rivers and bluff erosion along the Scarborough Bluffs (Sharpe, 1980). This resulted in the formation of a sand spit that extended from Ashbridge’s Bay, to the Toronto Islands. Figure 3.2 shows the Toronto shoreline in 1906. The net direction of sediment transport was in a westerly direction and the spit was an area of deposition.



Figure 3.2 Excerpt of 1906 Canadian National Atlas Map Showing Toronto Harbour (Gov’t. of Canada)

Considerable fill was added to the islands and Toronto Harbour commencing in the mid 1800s and continuing through the 1950s. In the 1920s most of the marsh in Ashbridge's Bay was filled to create industrial land. This was followed by further lakefilling at the west end of the Toronto Islands in the 1930s, to create the present day BBTCA. Construction of the Leslie Street Spit commenced in the 1950s and today, the Leslie Street Spit forms a complete barrier to littoral transport from the east.

The present day harbour is shown in Figure 3.3. The Harbour is isolated from sediment sources. There is virtually no sediment transport into the Harbour through the Eastern and Western Gaps. The Don River, once a source of sediment to the area, now empties into the Keating Channel, which is regularly dredged. The proposed project to naturalize the mouth of the Don River includes sediment traps that will require maintenance dredging.

Historical bore holes from Toronto Harbour show that the lakebed in the Harbour consists of sand and mud deposits, varying in thickness from approximately 1 m to 10 m, overlying bedrock (THC, 1912).

Within Toronto Harbour, the north, east and west shores of the Harbour consist of lakefill, protected by timber cribs, concrete walls and steel sheet piling as shown in Figure 3.3. The south shore, which is the sheltered shoreline of the Toronto Islands, consists of sand deposits, also largely protected with revetments and seawalls. As a result, the shoreline does not erode in response to wave action, and it does not represent a sediment supply within the Harbour.

The proposed lakefilling is located lakeward of protected shoreline as shown in Figure 3.3. The fill will be located below water level. As the shoreline is currently protected, it does not result in any change to the length of unprotected shoreline in the Harbour. Adjacent shorelines are also protected as described in Section 3.1.

In conclusion, there is limited sediment transport within Toronto Harbour today. Much of the shoreline is currently protected and no significant sediment sources exist. The future naturalization of the Don River mouth will not significantly change the sediment sources. There will be no discernible impacts of the proposed lakefilling on sediment processes in Toronto Harbour.



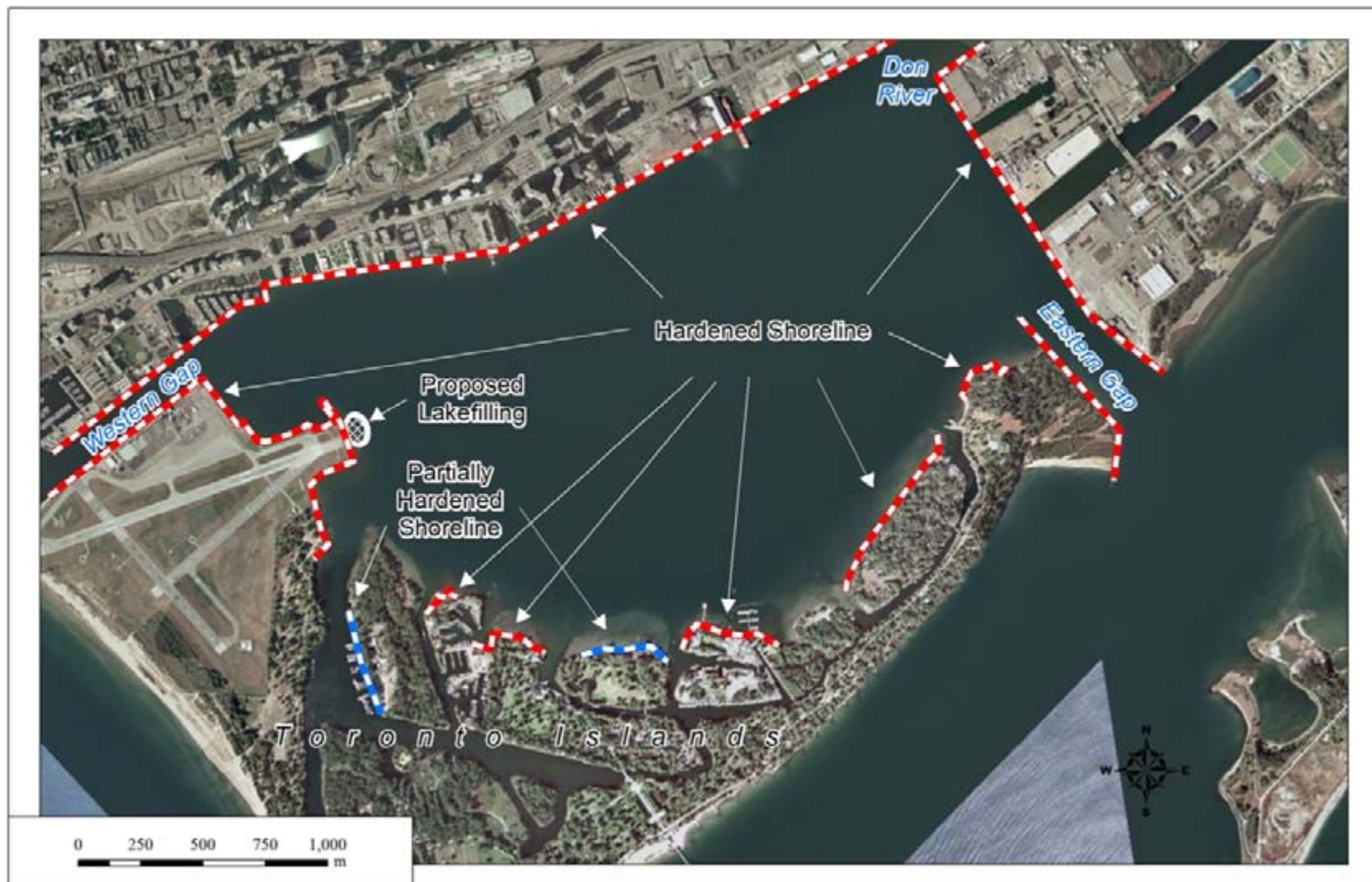


Figure 3.3 Map Showing Key Features Governing Sediment Processes in Toronto Harbour

## 4.0 POTENTIAL IMPACTS OF PROPOSED WORKS

This section summarizes potential impacts of the project on the coastal environment.

### *Bathymetry:*

Lakefilling will result in decreased depths at the project site. This may have some implications in terms of navigation as described below. The decreased depths may also affect fisheries habitat. The assessment of impacts on fisheries habitat is beyond the scope of this report and is addressed by others in the screening report.

### *Water Levels:*

Water levels in the harbour will not be impacted by the project.

### *Wind:*

Wind in the harbour will not be impacted by the project.

### *Wave Climate:*

There will be some minor, localized changes to waves at the project site, due to increased wave refraction through the shallower depths. The effect will be a very minor reduction in wave height that will be limited to the lee side of the proposed lakefilling. It is expected that the minor changes to wave height will not have a significant impact on adjacent areas. During winds from limited directions, there may be a small reduction in the wave climate in areas immediately sheltered by the installation. This has been quantified using standard desktop diffraction diagrams; this reduction is predicted to be localized and will not impact adjacent shorelines.

### *Currents:*

Changes to currents will be minor and limited to the immediate area of the proposed lakefilling and will not result in additional erosion at adjacent shorelines.

### *Ice:*

No significant changes to ice formation in the harbour are anticipated.

### *Sediment Processes:*

There will be no discernible impacts of the proposed lakefilling on sediment processes in Toronto Harbour. The shoreline in the vicinity of the project currently protected and there will be no reduction in sediment supply within the Harbour. Sediment supply is currently limited due to protection of much of the Harbour shoreline. During construction there is potential for suspension of sediment. Potential impacts are largely related to fisheries. It is recommended that a silt barrier be used during construction to mitigate the impacts. Sediment quality was not included in the scope of this report and is addressed by others in the screening report.



*Structures:*

The project is located in an area with a heavily protected shoreline that is resistant to wave action and shoreline change/morphology. The proposed works are not expected to have an impact upon the shoreline or shoreline protection structures in the vicinity of the project site.

The underwater mound created by the lakefilling with the tunnel spoil material may undergo some adjustment in profile shape due to wave action; it is expected that over time the placed slopes of the fill material will flatten out and the top crest elevation may be reduced. The profile adjustment of the fill material under severe wave conditions will be dependent on the size and gradation of the material and the depth of the crest of the mound below the water level. If used, the pedestrian tunnel spoil material is shale with limestone; shale can degrade naturally over time into smaller pieces. Durability tests of the material are being undertaken by others. A covering of larger stone material (e.g., riprap) could be used to provide stability of the tunnel spoil material, if required. The thickness of the riprap cover layer is expected to be in the range of 0.7 m to 1.2 m, subject to the completion of a design should it be determined to be necessary.

*Navigation:*

It has been assumed that the fill will be placed with a top elevation of about 1 m below CD. This will result in a reduction of the existing water depth in the area of the lakefilling and could pose a navigation risk to vessels, depending on the vessel draft and the water level, if they accidentally cross over the submerged mound. It must be noted that the proposed lakefill is within the existing Marine Exclusion Zone (MEZ); the MEZ is already prominently demarcated by warning buoys.

*Intake Tunnel:*

It is noted on Toronto Harbour Plan (THC 1986) that there is an intake tunnel in the vicinity of the proposed lakefilling; the intake tunnel runs from Maple Leaf Quay to Hanlan's Point and is below the bottom of the Harbour (reportedly located at 23 m to 28 m below IGLD 1985).

## 5.0 SUMMARY

The Toronto Port Authority (TPA) is proposing to lakefill an area with a maximum size of approximately 8,000 m<sup>2</sup> (top crest area) within the Marine Exclusion Zone (MEZ) in the Harbour just east of BBTCA. While not a requirement of the project, the project may take advantage of fill material, excavated from the BBTCA Pedestrian Tunnel Project. It has been assumed, for the purposes of the screening, that the fill will be placed with side slopes of 1:1.3 (vertical:horizontal), which is the estimated angle of repose of the material. Also for the purposes of the assessment, the crest elevation of the fill was assumed to be about 1 m below Chart Datum. The total area of the harbour bed that would be occupied would be a maximum of approximately 9,200 m<sup>2</sup>.

The coastal conditions and the effects of the proposed lakefilling were assessed in support of a screening under the Canada Port Authority EA Regulations. The existing shoreline and coastal environment assessed includes: bathymetry, water levels, wind, waves, currents, ice and sediment processes. Toronto Port Authority mapping indicates that an intake tunnel exists below the lakebed in the vicinity of the proposed lakefilling.

No significant impacts to water levels, wind, currents, ice and sediment processes within the Harbour were identified as a result of the proposed lakefilling. A very minor reduction in wave height, limited to the local area immediately in the lee area of the proposed lakefilling, is anticipated. During construction, a sediment barrier should be used to limit the potential impacts of suspended sediment on fisheries and fish habitat.

The underwater mound created by the lakefilling with the pedestrian tunnel spoil material will be subject to some adjustment in profile shape due to wave action; it is expected that over time the placed slopes of the fill material will flatten out and the top crest elevation may be reduced. The profile adjustment of the fill material under severe wave conditions will be dependent on the size and gradation of the fill material and the depth of the crest of the mound below the water level. If used, the pedestrian tunnel spoil material is shale with limestone; shale can degrade naturally over time into smaller pieces. A covering of larger stone material (e.g., riprap) could be used to provide stability of the tunnel spoil material, if required. The thickness of the riprap cover layer is expected to be in the range of 0.7 m to 1.2 m, subject to the completion of a design should it be determined to be necessary.

It has been assumed that the fill will be placed with a top elevation of about 1 m below CD. This will result in a reduction of the existing water depth in the area of the lakefilling and could pose a navigation risk to vessels, depending on the vessel draft and the water level, if they accidentally cross over the submerged mound. It must be noted that the proposed lakefill is within the existing Marine Exclusion Zone (MEZ); the MEZ is already prominently demarcated by warning buoys.

## 6.0 REFERENCES

British Standards (1984). British Standard Code of Practice for Maritime Structures BS6349 - Part 1, British Standards Institution.

Sharpe, D.R., 1980. Quarternary Geology of Toronto and Surrounding Area; Ontario Geological Survey Preliminary Map P. 2204, Geological Series. Scale 1:100,000. Compiled 1980.

Toronto Harbour Commissioners, 1912. Waterfront Conditions.

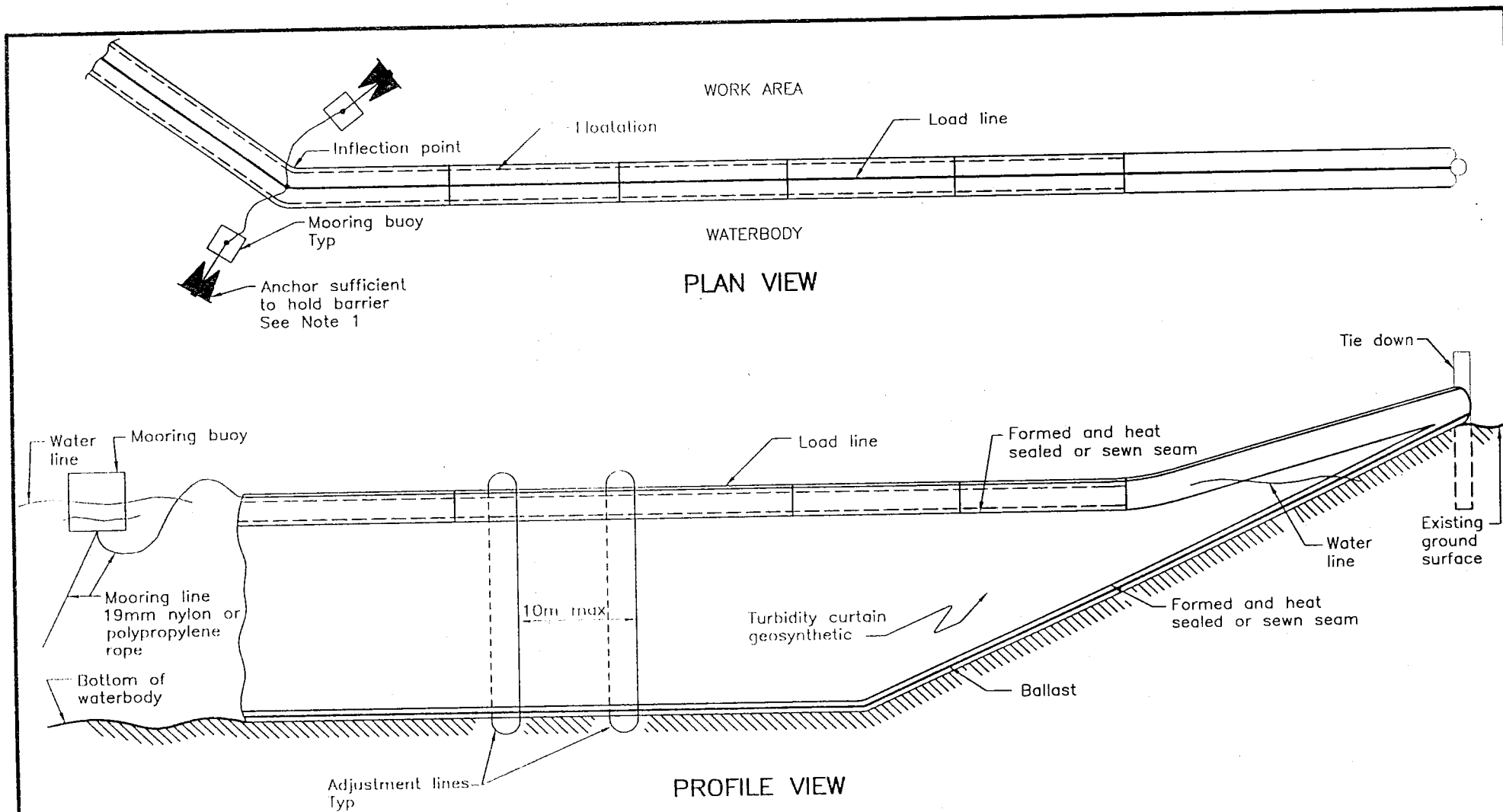
Toronto Harbour Commissioners, 1986. Port and Harbour of Toronto



## **APPENDIX B**

### **ONTARIO PROVINCIAL STANDARD – TURBIDITY CURTAIN**





# NOTES:

1 Anchoring is to provide positive positioning for turbidity curtain.

A All dimensions are in millimetres or metres unless otherwise shown.

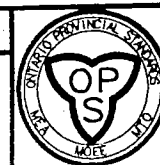
ONTARIO PROVINCIAL STANDARD DRAWING

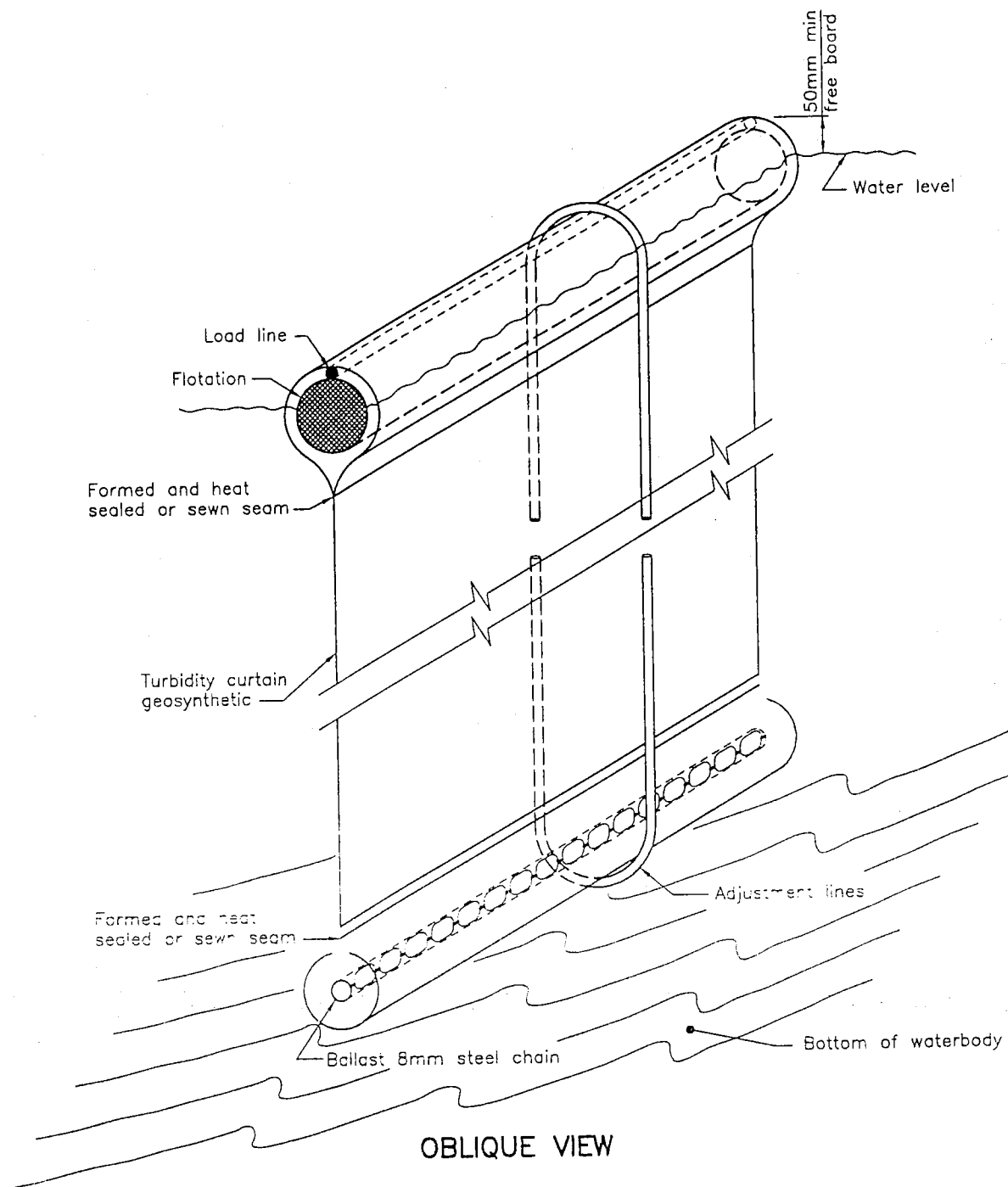
TURBIDITY CURTAIN

1996 02 01 Rev

Date

OPSD - 219.260





**NOTE:**

A All dimensions are in millimetres or metres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

1996 02 01 Rev

**TURBIDITY CURTAIN**

SEAM DETAIL

Date

OPSD - 219.261







## **APPENDIX C**

### **CONSULTATION SUMMARY REPORT**



# **Proposed Lakefill within the Keep-Out Area in Toronto Harbour East of Billy Bishop Toronto City Airport Environmental Assessment Screening Community Meeting Summary Report**

**Radisson Admiral Hotel, Salon A  
249 Queen's Quay West, Toronto  
June 14, 2012  
7:00 p.m. – 8:30 p.m.**

Report Prepared By:





*This community meeting summary report was prepared by Lura Consulting. Lura is providing neutral third-party consultation services to the Toronto Port Authority (TPA). This summary report is not intended to provide verbatim accounts of meeting discussions, rather, it summarizes and documents the key points made during the meeting presentations and the Question and Answer period. If you have any questions or comments regarding the summary report, please contact either:*

Ken Lundy  
Director of Infrastructure, Planning  
& Environment  
**Toronto Port Authority (TPA)**  
Phone: 416-863-2040  
[klundy@torontoport.com](mailto:klundy@torontoport.com)

OR

**Jim Faught**  
Facilitator  
**Lura Consulting**  
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### ***Introductions – Jim Faught, Lura Consulting***

Jim Faught, Lura Consulting welcomed stakeholders and members of the public to the community meeting, and introduced himself as the meeting facilitator. Mr. Faught briefly outlined the meeting agenda. Mr. Faught noted that a significant amount of time will be allotted to a Question and Answer period, and every effort will be made to answer all questions and address all comments.

### ***Overview of Lakefilling Project – Ken Lundy, Toronto Port Authority***

Ken Lundy, Director of Infrastructure, Planning & Environment, Toronto Port Authority, thanked community members and stakeholders for attending the meeting. Mr. Lundy provided a presentation about the proposed Lakefilling within the east Marine Exclusion Zone (Keep-Out Area).

Key points from Mr. Lundy's presentation included the following:

- The project includes lakefilling in the Toronto Harbour outside the east end of the Billy Bishop Toronto City Airport (BBTCA).
- Filling will take place in an area of approximately 5,000 m<sup>2</sup> within the airport's Marine Exclusion Zone (MEZ) – about 50 m x 100 m.
- Top of the lakefill will be below the water level – about 1.0 metre below the normal water level and 0.5 meters below low water level.
- The purpose of the project is to enhance safety of the airport, take advantage of the excess materials generated from the pedestrian tunnel project to reduce the traffic of construction vehicles in the neighbourhood, and create new marine habitat.
- There are no plans for runway extensions as these are prohibited by the Tripartite Agreement.

### ***Overview of the Planning Process – Don McKinnon, Dillon Consulting***

Don McKinnon, Dillon Consulting, provided an overview of the Environmental Assessment (EA) screening process. Key points from Mr. McKinnon's presentation included the following:

- The project requires the completion of an EA under the 1999 Canada Port Authority EA Regulations – under the Canadian Environmental Assessment Act (CEAA).
- The EA screening examines the environmental effects, cumulative effects and their significance, comments from the public, and mitigation measures for any significant adverse effects.
- The EA screening is assessing the potential for effects on the existing natural environment and the existing socio-economic environment.
- Communications with information regarding the project have been sent to numerous agencies and organizations and discussions have begun with stakeholders.
- Construction period is expected to be about 18 months, starting mid-Summer 2012.

- Material from the pedestrian tunnel, if used, may be stockpiled for a short term on BBTCA property prior to lakefilling and transported to the site by barge and/or front end loaders.
- Placement of material is expected to occur at night when airport is not operating.

### **Question and Answer Period**

Following the presentations, Jim Faught moderated a question and answer period. Meeting attendees had an opportunity to pose questions to the presenters, Dillon Consulting, and TPA staff. Below is a summary of the questions and answer period, with questions marked with **Q**, comments with **C**, and answers with **A**.

**Q** – How definite is it that this will happen?

**A** – The EA screening is part of the planning process. It looks at and assesses any impacts to the environment, then is weighted with the feasibility and practicality of actually doing the project.

**Q** – What percentage of funding will come from federal sources, provincial, municipal, private sector, and public-private partnerships?

**A** – It will not be funded by others. Funding will come entirely through the Toronto Port Authority. Hopefully, there will be some collaboration with the tunnelling contractor to cover some of the cost that they will be saving from not having to truck materials away, but that is not definite at this time.

**C** – It was mentioned that this is not an extension of the runway. An extension is not allowed under the Tripartite Agreement. This was also true for a tunnel, but it was changed. I'm concerned that that the same thing will happen here and this is a ploy to extend the runway. We've been lied to before by the TPA, will it happen again?

**Q** – Are you going to state publically that this is not a ploy to extend the runway?

**A** – The TPA has no intention of extending the runway.

**Q** – Will you be publishing the comments?

**A** – Yes, we are taking notes tonight and all comments will be part of the record of consultation in the EA Screening Report.

**Q** – What is the reason for this project? For every project that happens on the Lake, all the materials are taken away and dumped off site, why dump this in the Lake for this one? To satisfy the contractor? You're creating a very dangerous situation with filling to one metre below the water level. Any boat that accidently goes through, will be damaged. Put more buoys to stop unwanted boat traffic. You don't need to satisfy the contractor. What is the real reason?

**A** – The current location for disposing of the debris from the tunnel excavation is off site, generating a lot of traffic. The community requested the materials be moved via marine, through the use of a barge, but this is very expensive. Using the fill for this project eliminates the need to send trucks through the community. This idea of the lakefill project has been

around for a long time – there has been talk about creating fish habitat. This is an opportunity to reduce truck traffic from the tunnelling project, create fish habitat, and create safer boating conditions.

**Q** – I am concerned about fish just as much as I’m concerned about humans. You should have a record of boater violations entering the Keep-Out Area, can you tell us about it?

**A** – It is a \$10,000 fine if boaters are in the area. There has been more than one incident. We don’t have exact details of when. If there is any incident, there is significant impact on passenger safety on the airplanes.

**Q** – Buoys and markers are used effectively everywhere else in Canada, why can’t they be used here?

**A** – They do work, but they are not a physical deterrent. This would be a physical barrier.

**Q** – Has Transport Canada requested this change?

**A** – No, but we will be approaching them about this.

**Q** – As part of EA, you’re required to speak with local constituents. I’m part of two local groups that should have been consulted, but we haven’t heard anything about it. The associations here tonight haven’t heard anything. Who have you spoken to?

**A** – This is part of the formal screening process. We are talking to people now, will be consulting further, and when the draft report is completed, it will be available for comment.

**Q** – Who have you spoke to?

**A** – Spoken with the president of the Bathurst Quay Neighbourhood Association. Don’t have exact dates.

**C** – You had a casual conversation earlier this week. That is not consultation in my opinion. Go back to slide saying everyone you have consulted with. The York Quay Neighbourhood Association was not consulted at all. Meeting with City Councillors – A meeting has not been conducted, only notices sent.

**C** – One week notice for this meeting is not enough notice.

**A** – Public notice was provided 10 days before tonight’s meeting. We apologize for any lack of notice.

**C** – I cannot access the report on the TPA website.

**A** – We will look into that and will also send you the document that you were looking for.

**C** – I am a member of the Community Construction Liaison Committee. When we met last month we talked about the removal of the materials. There was no mention of dumping it in the Lake. We asked to use barges, but never asked for it to be dumped in the harbour.

**Q** – How much is the consultant getting paid? If they give a negative report, do they still get more work?

**A** – They are a professional engineering company hired through an open bidding process.

**Q** - How much are they getting paid for this report?



**A** – Not at liberty to disclose. This is a professional organization.

**Q** – I have questions about the process. We've been around this before. As I understand it the TPA has the ability to approve this EA themselves?

**A** – Yes, the process is spelled out under the regulation of the Canadian Environmental Assessment Act.

**C** – This is hardly an arms-length process. The proponent is also the approver. This consultation is pretty much a sham.

**Q** – Who owns the bed of the harbour?

**A** – The TPA owns the land that is the bed of the harbour.

**C** – I don't know a lot about fish habitat, but I know fish swim in water. Putting fill in violates my idea of what fish need.

**A** – The area is featureless; there is not a lot of area for spawning. It's not good conditions for fish habitat. Fill will create areas that are good for fish habitat.

**Q** – Is there going to be an independent study of the fish habitat?

**A** – DFO (Fisheries and Oceans Canada) will be consulted and we will work with them.

**C** – DFO is with the government, so no, there won't be an independent study.

**C** – I'm with TRCA (Toronto and Region Conservation Authority) and we are reviewing the fish habitat conditions for this EA.

**Q** – I don't live by the Lake, but been attempting to protect the island for over 30 years. For all those years, when the question of the island and a fixed link came up, the whole city stood up, voted, the federal politicians stood up. How did the tunnel happen? How many insertions of the ad for this meeting and the project appeared and in what papers? What emails and social media went out? I saw just one ad in the Star.

**A** – It was published in the Star and the L'Express. They ran for one day.

**C** – Full page ads used to be run. I strongly object to the whole thing.

**Q** – What is the size of the shale clumps coming out of the tunnel boring machine?

**A** – The largest is 25cm and smaller.

**Q** – So they will be small, fragmented pieces. How long will this sit in the Lake before it begins to break down? People are going to see a mud puddle in the Lake.

**A** – Engineers and the construction company are examining this as part of the EA screening process. It is not expected to be an issue.

**Q** – Additional fill materials will have to be imported. Do you have any assessment of what is going to be brought in? Will it be trucked in to the area? Who will get the payment for handling this extra material?

**A** – The quality of the material coming out of the tunnel will drive the size of the project. We don't know yet until the marine engineers determine the exact amount. Access from the walls is limited so it will be coming in through the harbour. It is premature to determine how the payment would work.

**Q** – Are there any plans on changing the existing flight paths?

**A** – This has nothing to do with the flight paths.

**Q** – Are there any plans outside of this project to change flight paths?

**A** – No, the flight path remains the same. There are some discussions on instrumental landing – this is strictly with the pilots and how they find the runway.

**Q** – The neighbourhood objected to the night time construction of the tunnel. They would have the same objections with this project.

**A** – The noise is being reviewed as part of the EA. It will be mitigated. Construction will not take place all night, only for a couple hours, and efforts will be made to minimize any noise.

**C** – Night is night; we only have a certain number of hours to sleep. If people can't sleep, that's a problem. Dumping is dumping. When gravel was being dumped before it was thunderous. I couldn't imagine dumping rock would be any quieter.

**A** – The noise will be studied as part of the assessment and we will undertake to develop mitigation measures for noise.

**Q** – I'm trying to understand this process – consultation. Every meeting is confrontational. Why is that?

**A** – I can guess at certain things. I would suggest you don't trust us and that bothers me. I come before you today with facts and an assessment of the project.

**C** – There is no longer a communications officer with the TPA. I've been at all the meetings and haven't seen any improvement in the communications.

**Q** – I live on the waterfront and don't trust you. Every week you come and give nice presentations, make statements, say you're going to consult and then don't do anything. We don't trust you. There is no public interest anymore. You can build an airport on the waterfront and nobody discusses it. You said you were going to pay for this. Where are you on paying your bills to the City?

**A** – This meeting is about this Lakefill EA screening project and that question can be directed to the TPA through the regular channels.

**C** – What is the point of this if the project is going to happen anyways?

**Q** – I've been a resident for 9 years and think the arguments that this is a safety issue are ridiculous. I've never seen any problems. As a zoologist, the idea of putting small pieces of shale to create fish habitat, is dubious. There are well established methods that are better. Only having one metre of water can cause wading birds to be there causing even more problems.

**A** – Good comments about how to create fish habitat. The bird issue is being looked at.

**Q** – What will the water depth be?

**A** – About half a metre below the lowest water level. The water level fluctuates about one metre throughout the year.

**C** – When I heard about this I was appalled. We live in a big country, dumping in the Lake to create more land is ridiculous. We have a waterfront that should be attracting people. The waterfront is becoming about business, why does it always have to be about business.

**Q** – You mentioned consultation with First Nations and are expecting approval in July. Congratulations on the First Nations consultations. Which groups are you talking to?

**A** – We sent notices to First Nations groups. We don't seek approvals, we notify them and discuss further if they show interest.

**Q** – Who did you send notices to?

**A** – Mississaugas of the New Credit First Nation and Mississaugas of Scugog Island First Nation.

**Q** – And you heard nothing?

**A** – Not yet. There is follow up process.

**Q** – 100 years ago my house would have been in the Lake, so fill has worked for me. In the May 31<sup>st</sup> Project Description Report, it indicates this project would start in June. The draft report is due in July?

**A** – June refers to the construction schedule of the tunnel construction. Fill will start coming out at that time. We won't be entertaining lakefill until the EA screening process determines it is okay and the EA is approved. The fill from the tunnel will be removed by truck and taken to the New Market area.

**Q** – If there's a real problem with boats, why not put up a barrier like a chain link fence. That would certainly be a lot cheaper.

**A** – The "keep-out" buoys are taken out each winter. It would be prohibitive from an economic stand point to remove a chain link fence each year.

**C** – The fence would come out with the buoys.

**A** – There are boats all year round.

**C** – It would actually be better for fish habitat by digging deeper, making the water colder.

**Q** – It was mentioned by a member of the public that money came from private and public-private combinations. Did the tunnel partner providing money?

**A** – The project would be funded by the TPA, not any other government or through tax money. The tunnel project is being done in a public-private partnership. We will work with them to see if it is feasible – if it will be environmentally acceptable and commercially feasible

**Q** – The tunnel contractor is putting up money for this project?

**A** – We don't know yet. We are looking at the EA screening right now, but will have to look at it more later on.

**Q** – Will this PowerPoint presentation be available on the website? Will you follow up with our emails sent prior to the meeting?

**A** – Yes.

**Q** – Does the TPA own the land under the water?

**A** – Yes, in the inner harbour, TPA owns the lake bed.

**Q** – You could fill in all the harbour if you wanted?

**A** – No, there would be a huge environmental impact and it would not be allowed.

**Q** – At the last Community Liaison Committee, I suggested you speak with TRCA to use some of the fill to reinforce the south shore that was damaged from a water main break. This was all done to fill the Leslie Street Spit. This should be considered instead of turning the bay into a garbage dump and allowing tunnel contractor to work all night. Have you talked to TRCA about putting it in the south shore?

**A** – We've reached out but haven't heard back yet and will follow up with the TRCA.

**Q** – Will this installation require moving the buoys further into the bay?

**A** – No.

**Q** – For this EA, are you using residual findings from the tunnel project report findings?

**A** – Any published EA is a source of information, so yes.

**Q** – Have Dillon done every EA for the TPA?

**A** – No, SENES has recently been hired for the heritage building EA.

**C** – This is a community consultation meeting and a significant issue has been brought up about the fragmented fill coming up and being dumped, deteriorating the quality of the water in the bay. This needs to be addressed.

**Q** – You mentioned a report in early July, approvals by mid-summer. What is this report in early July? Is there opportunity for a community meeting to discuss this to get community input? Are you going to go back to talk to the Councillors, TRCA? The TPA has the ability to approve this thing, let's not make it a sham. We live here, it is our neighbourhood. Sailors will not be happy sailing around in mud.

**A** – The report in early July will be the draft EA screening report. At this point there are no specific plans for any more meetings. We have heard your concerns here tonight; the TPA can take this back and consider it as part of the EA.

**C** – We need a clear schedule showing timelines of next steps and consultations, not vague dates like mid-July, etc. You also need to properly advertise meetings. I assume you are going to approve your own report. We want a promise that if the airport gets closed down, you will remove this fill.

**C** – I want the consultation with Councillors taken off the slide, I've not been consulted and Adam Vaughan has indicated he has not been consulted. This is a well informed community that knows about these processes. This is not done right.

**Q** – Is there any impact on the restoration of the mouth of the Don project?

**A** – We have not been involved with that project.

**Q** – The City is embarking on a naturalization project of the Don. I suggest you get involved with other things that are happening in and around the bay. What are the cumulative impacts of the project?

**A** – Yes, we will consider cumulative effects of other project on such things as wave actions, etc.

**Q** – Are there any restrictions by City by-laws?

**A** – By-laws are in place for noise, not construction. We will monitor the noise.

**C** – City by-law requires no construction on Sunday.

**A** – There will be no construction on Sundays.

**Q** – What about noise exemptions?

**A** – We have applied for a noise exemption for this project.

**C** – I am not accepting a noise exemption in my ward. This project will have to abide by the same rules as everyone else that is building in the city. It's not a question about if we trust the TPA, it's a matter of being respected. As a Councillor, my community members are painted into a corner and made to look bad and self interested. I'm very concerned about the lack of effort to work with the city and community. Take that back to your CEO. There is a lack of respect for the voice of my constituents.

**C** – Councillor Vaughan's office did receive notice of noise exemption related to the tunnel, not for this project. That one has been rejected and we are not aware of any others for this project.

**A** – The exemption has only been part of the tunnel project, which anticipates two shifts for 10 hours for 5 days.

**C** – That application has been refused.

**Q** – You mentioned stockpiles by the water's edge, where will they be located and how will they be barged?

**A** – They will be on the island, not on the mainland. Barging would be in the channel along the shore. Material will be deposited on the barge and then moved into place.

**C** – The noise is a problem. Thinking you can do this work at night, goes beyond the problem we have now with noise. The Tripartite Agreement says airport cannot make excessive noise and they are. If the community rallied and took legal action, the community could win. We are working in good faith. The construction noise driving this tunnel project is excessive; please don't add any more to this.

**C** – As the new Bathurst Quay Neighbourhood Association president, I have a concern that you only spoke with one person at the association, not to the association. This has to be made clear.

**A** – We had "consulted" in the presentation and it was miss-interpreted. There have been discussions with the President of the Bathurst Quay Neighbourhood Association.

**Q** – At the last Tunnel Construction Liaison Committee meeting, there was no mention of this project, why?

**A** – It was not mentioned because we were dealing with the truck traffic. This is a plus for the concerns of that group since it will reduce the truck traffic.

**C** – This has come as a complete surprise. It should have been brought up at that meeting.

**C** – Thank you for coming tonight. This is a situation where I feel like I’m four years old. This is all smoke and mirrors. I feel very frustrated by this. This is incredibly stupid. What are you going to do? You are going to hurt a lot of people. Many people don’t have cottages, this is their only place to go to recreate. You should not be serving the porter airport.

**C** – Every time there have been questions about links to the island there have been crowds of people because we had proper notice. There has been irresponsibly low advertising for this project. Under the Aeronautics Act the Transport Minister has the authority and responsibility to act in the best interest of the public. I’ve written letters. Everyone needs to write to the papers and the Transport Minister – tell him logically about the situation. Send a letter. We have to all work together in a pleasant way. The islands are a heritage and should be protected at all costs.

***Concluding Remarks – Ken Lundy, Toronto Port Authority***

Ken Lundy, Toronto Port Authority, thanked everyone for attending and providing feedback on this project. Mr. Lundy provided concluding remarks, noting the following:

- Comments should be submitted within the next week to the email on the screen or in writing to the TPA.
- Consultation meetings with stakeholders are ongoing.
- The draft EA screening report is anticipating being ready by July at which point there will be further opportunity to provide comment on the draft.

**Meeting Adjourned: 8:30 p.m.**



**COMMENT RESPONSE TABLE**  
**(TO BE INCLUDED IN THE FINAL SCREENING REPORT)**